JOURNAL OF THE ROYAL HORTICULTURAL SOCIETY

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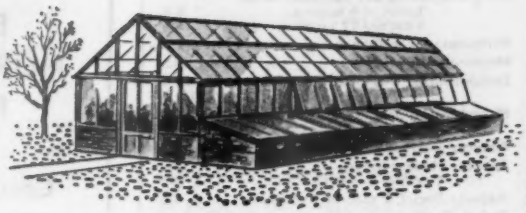

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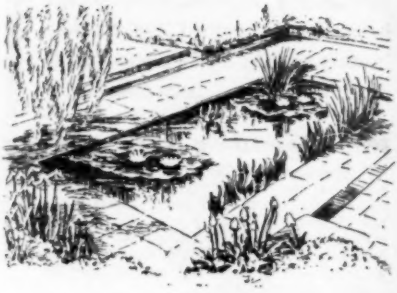

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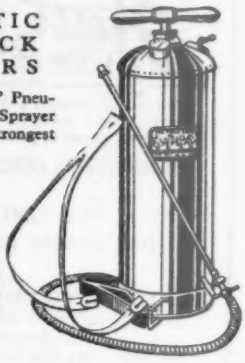

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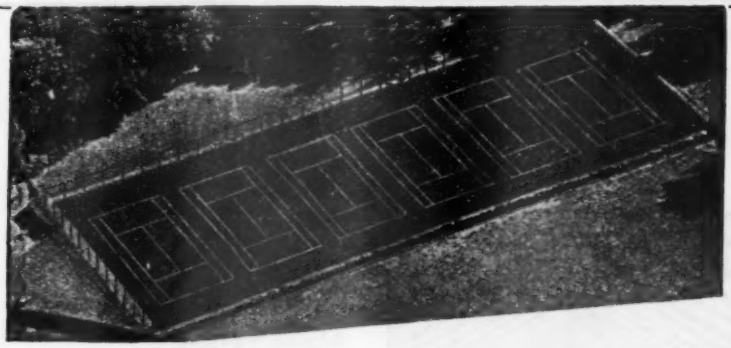

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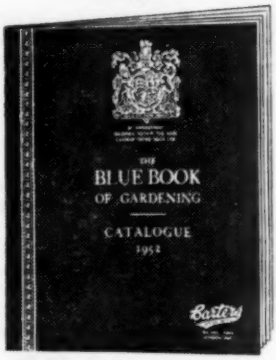

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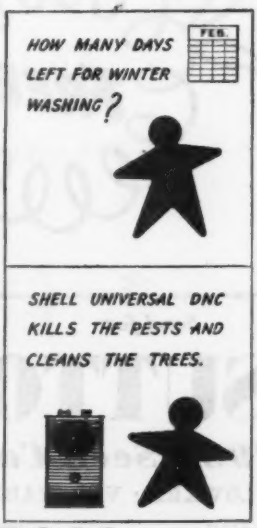

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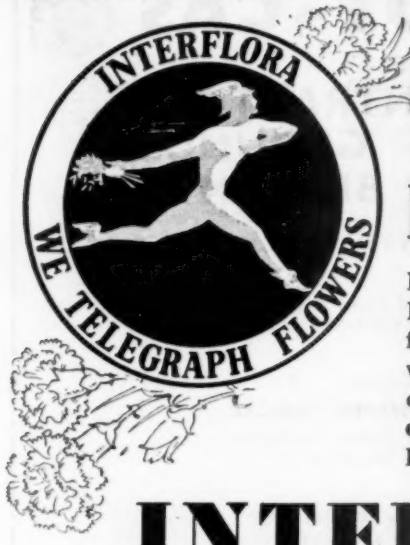

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AT 3 P.M. ON TUESDAY, FEBRUARY 26, 1952

REPORT OF THE COUNCIL OF
THE ROYAL HORTICULTURAL SOCIETY

THE past year has been one of steady progress in all branches of the Society's activities. The continued interest of the general public in horticulture is shown not only in the further increase in the number of Fellows but also by many reports which have been received of increased activity among local Horticultural Societies, many of which are affiliated to us.

The additional office accommodation built over the south end of the Old Hall has been completed and is now in use. Opportunity has been taken to include a large stationery store which has permitted reorganization of our storage space in the basement for the ever-increasing bulk of the Society's publications. This enables prompt attention to be paid to requests from Fellows for purchases.

An inevitable corollary to the expanding membership is an increase in the number of requests for information and assistance received both at Vincent Square and Wisley, throwing an ever-growing extra load on every department. The Council is therefore faced with the necessity of either increasing the staff or cutting down the facilities offered to Fellows.

The policy of the Society has always been to respond promptly and fully to all requests for information whether from its Fellows or the general public and as the Council does not wish to depart from that policy it has enlarged the staff. In addition, increases in the remuneration of the whole staff have been necessary because of the rise in the cost of living, and the salary and wages bill is in fact rising faster than the income of the Society, but as long as the Council can see its way to meeting these charges it does not intend to curtail the Society's work. Another important factor in the Society's finances is the termination of the post war courses for ex-Service student gardeners at Wisley which were sponsored by the Ministries of Labour and Agriculture and Fisheries. In return for the instruction given, and the unsurpassed facilities for training available, the students were expected to work in the Gardens and of course such work was essential for their education. This labour was of great assistance to the Gardens and now that it has ceased extra employees are being engaged to ensure that the present condition of the Gardens shall be maintained.

Nowadays it is nearly impossible to get labour unless houses are available. During the year steps have been taken to repair and improve the standard of accommodation of most of the older cottages at Wisley and two new cottages have been built. Plans are being made for building a further four cottages and a promise has been received from the Minis r of Town and Country Planning that a licence will be issued for their construction.

The Council is considering further plans for increasing the facilities for accommodating workers at Wisley. Work has been put in hand for the installation of a modern sewage plant at Wisley for the Laboratory and the Society's houses grouped around it. The cost of this work will be not far short of £4,000.

As many inquiries had been received from Fellows, Affiliated Societies, etc., about facilities for obtaining refreshments at the Gardens, an arrangement was made last year with a firm of caterers to install a mobile tea van in the Gardens where visitors could obtain a cup of tea, cakes, etc. The response has been gratifying and the Council, realizing the need for improvement, is contemplating the erection of a permanent building which will afford Fellows similar facilities in better surroundings.

Numerical Strength—The numerical strength of the Society was increased in 1951 by 1,461 to 39,852, the highest total yet reached. See Table on p. xxviii.

Obituary—The Council has sustained a sad blow in the sudden death of Mr. George Monro, C.B.E., V.M.H., Chevalier of the Order of the Crown of Belgium, Chevalier of the Merite Agricole of France, who had been almost continuously a member of Council for twenty-six years and was Treasurer of the Society from 1938 to 1942. Mr. Monro was greatly loved and esteemed for his personal qualities, for his wise counsel and for his untiring work for horticulture. At the time of his death he was Chairman of three joint flower committees and a member of the Finance and many other committees, in attendance at which he was indefatigable.

In his passing the Society loses one who was for many years an outstanding figure in horticulture.

Just prior to his death the Council had passed a resolution nominating him for election as a Vice-President of the Society in recognition of his great services. It is fortunate that this decision was communicated to Mr. Monro just before his last illness.

The Society has also suffered two grievous losses amongst its staff since the last Annual Report was written.

In addition to Mr. Fox Wilson, whose death was reported to the last Annual General Meeting, the death of Mr. F. C. Brown, the Society's Trials Officer, has left a void which it will be very hard indeed to fill. Obituary notices of both these devoted servants of the Society have been published in the JOURNAL. The Council also records with regret the death of the following holders of the Victoria Medal of Honour:

Mr. E. A. L. Laxton, a member of the well-known firm of nurserymen at Bedford who have specialized in fruit. Mr. Laxton himself was responsible for the introduction of many new varieties of fruit.

Mr. J. F. McLeod, for many years a member of the Floral Committee, and Mr. C. P. Raffill, who had only recently retired from the staff of the Royal Botanic Gardens, Kew, and was for many years a member of several of the Floral Committees.

The deaths of the following Associates of Honour have also regretfully to be reported: Mr. A. Kettlety, Mr. J. Kneller, Mr. E. Neal, Mr. Wm. Richards and Mr. F. Troughton; as has also those of l'Abbé Souillet, the well-known authority on Lilies in France and a correspondent of the Lily Committee; of Mr. W. Arnold-Forster, the well-known writer and lecturer, whose garden at Eagles' Nest near St. Ives was an outstanding example of successful gardening in an exposed position; of Lady Muriel

Jex-Blake, who was awarded a Silver Veitch Memorial Medal in 1948 for her services to horticulture in Kenya; of Mr. E. R. Ashton, Mr. W. H. Hatcher and Mr. Fred Sander, the well-known Orchid experts; and of the Rev. J. Bernard Hall, an Honorary Fellow.

Shows—As its contribution to the Festival of Britain the Council decided to concentrate its efforts on the Chelsea Show. Extensive alterations were made in the layout of the floral part of the Show, notably by the erection of an additional span of canvas over Monument Road, thereby bringing the whole area occupied by floral exhibits under one canopy. The great marquee therefore covered nearly three acres and is believed to have been the largest continuous stretch of canvas ever erected in the world. Considerable alterations to the road and storm drainage were necessary, costing about £12,000, but the Council felt that this expenditure was well worth while for the improvement it afforded not only to the magnificence of the spectacle but to the comfort underfoot of visitors to the Show. Applications for space were more than sufficient to fill adequately the increased area under canvas and the quality of the exhibits was if anything higher than usual.

Their Majesties the King and Queen, accompanied by many other members of the Royal Family, graciously honoured the Show with their presence.

The Fortnightly Shows were again well supported both by the members of the Horticultural Trade and by our Fellows and the general public.

The Council hopes that more amateurs will support the Fortnightly Shows by exhibiting collections of plants from their gardens and by competing in the classes in the various competitions. While the magnificent exhibits staged by certain private gardens before the war cannot be copied nowadays except by very few, the Council still feels that there must be many amateurs who could provide smaller exhibits which would be of great interest to our Fellows and hopes that the traditions of the past in this respect will still be maintained in the future.

The Conference which had been arranged on "The Breeding of Garden Plants" had unfortunately to be cancelled due to the inability of many of the leading lecturers to be present. It has been decided to organize a special section in the International Horticultural Congress, 1952, to cover this subject and some at least of the papers which were to have been read at the 1951 Conference will be delivered in 1952.

The International Horticultural Congress Committee, which consists of delegates nominated by various Governments decided, at the invitation of the British Government, that the Congress in 1952 should be held in London. The responsibility for the detailed organization of this Congress has been entrusted to this Society and additional staff has already been engaged to deal with the large amount of work entailed in the organization of the Congress. The Congress will be held between September 8 and 15, 1952, and will be followed by numerous visits and tours to many research stations, botanic and other gardens, leading nurseries and other places of interest in Great Britain. Full details will be published later and notices inserted in the JOURNAL.

The programme of Shows for 1952 will be similar to that for 1951.

For two years the Council has kept the Shows open on the first day of each Fortnightly Show during summer time until 7 P.M. This was done in response to requests received from some Fellows. Experience has, however, shown that this experiment did not receive sufficient support to justify its continuance. The necessity for staffing the stands involves exhibitors in considerable expense and in response to strong representations from the Trade it has been decided to revert to the previous practice of closing the Shows at 6 P.M. on Tuesdays.

The Annual General Meeting will be held on February 26 and again coincides with the third Show of the year.

A full programme of lectures has also been arranged and the Council is pleased to report that Dr. C. D. Darlington, F.R.S., Director of the John Innes Horticultural Institution, has consented to give the Masters Memorial Lectures.

Chelsea Show will be held on May 21 to 23, inclusive, preceded by the Private View on the afternoon of Tuesday, May 20.

The usual programme of competitions has been arranged.

Full details of the arrangements for the Fruit, Lily and Rhododendron Groups for 1952 may be obtained from the Secretary. Membership in these Groups is open to all Fellows and Associates of the Society who are interested in these subjects without additional subscriptions.

The Gardens at Wisley will be open as usual throughout the year and demonstrations in practical gardening operations similar to those of past years have been arranged. Full details will be announced in the JOURNAL, month by month.

The Gardens—In April, 1951, Dr. H. R. Fletcher, who was for many years on the staff of the Royal Botanic Garden, Edinburgh, took up the appointment of Director of the Society's Gardens at Wisley. The Council is glad that it has been able to secure the services of so able a scientist for this important position.

The cool, wet, frostless spring of 1951 suited the early-flowering trees and shrubs in the recently developed area on Battleston Hill, the Rhododendrons and Azaleas for instance blooming magnificently and, incidentally, showing what may be expected from them in the years to come. On the well-drained ridge of the Hill, certain species and hybrids of Lily grew and flowered remarkably well, and every effort is being made to increase the stocks of this genus in the Gardens. The unplanted parts of Battleston Hill have now been cleared and cultivated in readiness for future plantings.

The small wood which is situated to the south of the Pinetum has also been cultivated and is now ready for planting. A path connects this piece of woodland with the grass walk leading from the centre of the Pinetum and with the walk to the Herbaceous Border.

Meconopsis, Primula, Lilium and other moisture-loving plants revelled in the heavy rainfalls and ensured that the Wild Garden was a source of interest the whole summer. The large hardy Rhododendrons which were ruined by the freak snowfall of April 26, 1950, have been removed with the result that now there is room for a wider range of plants.

Further portions of the old, worn-out soil in the Rock Garden have

been renewed, and this part of the Gardens remained colourful throughout the summer months.

The cultivation of alpines in larger, shallower pans was rewarded with highly interesting displays in the Alpine House, and numerous additions of stove and temperate plants to the Glass Department made the Plant Houses of great interest to Fellows.

An exhibit of "Plants for a Woodland Garden" was staged by the Gardens Staff at Chelsea Show.

During the year generous gifts of plants and seeds have been received at the Gardens. Once again, Messrs. Watkins and Simpson, and Messrs. Sutton and Sons, presented a comprehensive collection of seeds of hardy and half-hardy annuals for the Annual Border. Many Asiatic Primulas and other rock-garden plants came from the Regius Keeper of the Royal Botanic Garden, Edinburgh, and from Major and Mrs. Knox Finlay of Keillour Castle, Methven, Perth. The collection of Achimenes species was enriched by the gift of tubers from Mr. E. E. Smith, of Palo Alto, California, and Mr. Maurice Mason of King's Lynn donated several interesting stove plants. For these and for many other donations, not only for the Gardens, but also of seeds for distribution to Fellows, the Council wishes to express its thanks.

From September 1, 1950, until August 31, 1951, there were 88,178 visitors to the Gardens, compared with 87,969 during the corresponding period of 1949–50. The Council still feels certain that the Gardens are not sufficiently well known and hopes that all Fellows will do their best to encourage their friends to visit Wisley.

Advisory Work—As in past years, a large number of inquiries have been received at the Gardens. The great majority of them relate to technical subjects such as the identification and methods of control of pests and diseases, the eradication of weeds, the use of mechanical appliances and the identification and cultivation of plants, flowers and fruits.

Scientific Investigations—In the Mycology Department work was continued on the selection and crossing of Antirrhinum stocks resistant to the Rust disease, and plots of the three rust-resistant varieties released last year were grown to obtain further seeds for distribution to Fellows. Experimental plots are being planted with Rhododendrons so that more precise information may be obtained on the method of infection and the control of the Bud Blast disease of these plants.

In the Entomology Department, progress has been made in the investigation of several new, or occasional, plant pests, including *Brachypterolus* species on Antirrhinum and Noctuid larvae attacking Onion foliage, and the collection of data relating to the distribution and spread of introduced pests is continuing. Tests are being continued on the effectiveness of systemic and contact insecticides in combating a wide range of pests.

The main work of the Cytology Department has been an examination of the genera Camellia, Viburnum, Lonicera, Narcissus, Nerine and Buddleia. The results are being published in the JOURNAL and among other things confirm what the 1950 cytological survey of dozens of

species of the genus Rhododendron suggested, that that part of S.E. Asia which includes Szechwan and Yunnan and parts of Upper Burma and the East Himalaya is a region of intense evolutionary activity in which polyploidy is the main factor in the rapid rate of speciation. Colchicine has broken down the diploidy of the Rhododendrons of the Elepidote series and the first colchicine-induced tetraploid at Wisley is in *Rhododendron Wardii*.

Floral and Vegetable Trials—Trials of the following plants have been carried out during the year: Perennial Asters, Border Carnations, Early-flowering and Korean Chrysanthemums, Daffodils, Dahlias, Delphiniums, Gladioli, Bearded Irises, Perennial Lupins and Pinks.

The following invited trials took place: Nemesia, *Phlox Drummondii* and Perennial Phlox, and Sweet Pea.

The invited Vegetable Trials included Cabbages, Carrots, Cauliflowers, Parsley, Onions, Peas and Tomatoes.

The National Fruit Trials—The trials of hardy fruit for commercial purposes have been increased to the limit of the ground available and there are now approximately fifty-one acres of orchard. These trials are open for inspection by all who are interested in fruit growing.

Since the start of the trials about 700 varieties have been accepted for testing and for comparison with standard varieties. Many of these trial varieties have been introduced since the end of the war and some which have now cropped for two seasons show considerable promise both commercially and from the point of view of the private grower. Such promising new varieties have been propagated for distribution to the new Experimental Horticultural Stations which are being established by the Government in various parts of the country.

Additions also have been made to the standard collections maintained for purposes of nomenclature, etc., and about 600 varieties of Apple are now represented in this collection.

Further samples of soft fruits have been supplied for jamming and canning tests and of hard fruits for cold storage tests.

Studies on the nomenclature of hardy fruits have been continued and it is hoped shortly to publish part of this work.

The two experiments set up in 1950 in an attempt to combat spring frosts were repeated in 1951, but as there were no serious frosts during the spring of this year, the success, or failure, of the devices could not be proved.

A report has been published covering the progress of the trials to 1950.

Fruit—Practically all the varieties of Apple and Plum chosen to form the Society's new Fruit Collection have been planted, and are becoming established. This new collection of fruit is situated a little beyond the Model Fruit Gardens which adjoin the top of the Rose Walk. At the entrance to the new plantation two fences have been erected which are being furnished with trained trees. This development should be of special interest to those Fellows who wish to use walls or fences for the production of fruit. The selection comprises Apples, Pears, Plums, Cherries, Peaches and Nectarines, with the intervening spaces occupied by cordon and fan-shaped Gooseberries and Red

Currants. The Model Fruit Gardens, now fully established, continue to attract an increasing number of visitors and many inquiries are received concerning the planting of fruit gardens of similar design.

School of Horticulture—The training of student gardeners and trainees has continued. Nine students completed their two-year course of instruction in September and twenty-one trainees their one-year course in March and September. Of these thirty men, twenty-four gained the Wisley Diploma. The training at Wisley of ex-Servicemen under the Ministry of Agriculture's Vocational Training Scheme has ended, so that in future only student gardeners will be trained. At the close of the year seventeen students were receiving instruction. The exchange of students between the Niagara Parks Department, Canada, and Wisley has continued; Mr. C. C. D. Chowins is spending a year at Niagara, and a Canadian student, Mr. A. Dew, is at Wisley.

Scholarship—The Scholarship sponsored jointly by the Worshipful Company of Gardeners, the Sir James Knott Fund and the Society, was awarded to Mr. D. W. Way, a Wisley student, who completed his training at Wisley in September 1951.

Examinations—Examinations in horticulture are an important phase of the Society's work, for they encourage the acquisition of knowledge and technical skill, and have a marked influence throughout the country on the training of the rising generation of horticulturists. As already reported in detail in the JOURNAL, 2,050 candidates presented themselves during the past year and 1,264 (nearly the same number as in 1950) satisfied the examiners. Since the last examinations were held the Examinations Board has revised the syllabus for the National Diploma in Horticulture and also that for the Examination for Teachers of School Gardening. Prospective candidates should make themselves familiar with the change.

Publications—The JOURNAL has been published regularly and has been maintained at approximately the same size as in 1950.

The *R.H.S. Dictionary of Gardening*, edited by Mr. F. J. Chittenden, was completed during the year and was published in December by the Oxford University Press in four volumes. Work has continued on a Supplementary Volume which, in addition to new material, will contain lists of recommended varieties of the commoner garden plants.

Work is proceeding on books dealing with the following plants: Species of Camellia, by Mr. J. R. Sealy; Snowdrops and Snowflakes, by Mr. E. A. Bowles and Colonel F. C. Stern; Chinese Magnolias in Cultivation, by Mr. G. H. Johnstone. The larger part of the manuscript by Mr. Johnstone has now been received and it is hoped that this may be published in 1952.

A further volume in the New Series of the *Botanical Magazine* has been produced. This volume is dedicated to Colonel F. C. Stern. The plates have been prepared for the next volume but it has been decided that only two parts should be published in 1952, and the remaining two parts in 1953.

The *Index to the Botanical Magazine* was almost completed by Mr. Chittenden before he died; Mr. Chittenden's work is being checked to include changes in nomenclature which have recently been effected.

and it is hoped that the *Index*, which will include a history of the Magazine, will be published during 1952.

The *Daffodil and Tulip*, *Fruit*, *Lily* and *Rhododendron Year Books* for 1951–2 have been published. A new edition of the *Rhododendron Handbook* has been published. This contains a careful revision of the list of species and of the hardiness ratings accorded to both Rhododendron species and hybrids.

The Fruit Garden Displayed, a companion volume to *The Vegetable Garden Displayed*, has been published and is now available in a paper-bound edition and also in an edition bound in water-resistant cloth.

A *Report of the National Fruit Trials* for the years 1921–50 has also been published.

The manuscript has now been received for *Plant Introductions of George Forrest*, a book which has been prepared in conjunction with the Royal Botanic Garden, Edinburgh; it is expected that this work will appear in 1952.

Work is also proceeding on *Rhododendrons Collected by Ludlow, Sherriff and Taylor*, which is being compiled in conjunction with the British Museum (Natural History) under the direction of Dr. George Taylor. Dr. J. Rock has started work on a history of his plant collecting expeditions on the borders of Tibet and Western China, and it is hoped that this, illustrated with numerous fine photographs, will shortly be published by the Society. The card index of names and descriptions of varieties of *Camellia japonica* mentioned in the old literature has been prepared by Mr. Arthur Ellis.

The Lindley Library—During the current year about 280 books and major pamphlets, as well as current parts of periodicals, have been added to the Lindley Library. The accessions include :

Daffinger, M. M., *Blumen-Aquarelle* (1950).

Reynolds, G. W., *The Aloes of South Africa* (1950).

Christensen, C., *Den Danske Botaniks Historie* (1924–6).

Erdberg, E. von, *Chinese Influence on European Garden Structures* (1936).

Engler, A. (Ed.), *Die naturlichen Pflanzenfamilien*, 2nd ed., vols. 14a, 18a, 19a, 19c (1926–31).

Neue Berliner Gartner-Borse, April 1947 to March 1951 (all published), presented by Dr. Robert Zander.

Latourette, M. A. L. C. de, *Demonstrations élémentaires de Botanique*, 4th ed. (1796), notable for its illustrations by P. A. Richer de Balleval.

Buxbaum, J. C., *Plantarum minus cognitarum centuriae tres* (1728–9), a rare coloured copy from the library of D'Arcy Thompson.

Special mention must be made of the gift by Mr. S. Michael Young of a set of the many and varied publications of the Victorian authoress Ann Pratt (1806–93).

During the year 2,700 books have been lent to Fellows and Associates. 1,800 people signed the Visitors' Book.

Garden Advisory Service—The demand for the services of the Garden Adviser continues to increase, being greatest during late summer and autumn. It is feared that some Fellows who did not give sufficient notice during this period were disappointed. It would be

helpful if more Fellows who wish to avail themselves of this service would have their gardens visited in the spring or early summer, and if all would give as long notice as possible.

The Victoria Medal of Honour—The Victoria Medal of Honour, which was established "to enable the Council to confer conspicuous honour on those British Horticulturists, resident in the United Kingdom, whom it might from time to time consider deserving of special honour at the hands of the Society," has been awarded to: Dr. A. M. Amsler, Mr. Clarence Elliott, Mr. George H. Johnstone, O.B.E., and Lt.-Col. P. Crichton Kay, D.S.O., M.C.

The Veitch Memorial Trust—The awards made under the Veitch Memorial Trust "to those who have helped in the advancement and improvement of the science and practice of horticulture," are as follows: Gold Veitch Memorial Medal to Mr. Wilfrid Blunt, for his book on *The Art of Botanic Illustration*. Gold Veitch Memorial Medal to Dr. J. Macqueen Cowan, C.B.E., for his services to horticulture and in particular for his work in connection with the genus Rhododendron.

Honorary Fellowship—The Council has conferred an Honorary Fellowship of the Society on Mr. Frank Ludlow, the well-known explorer and plant collector.

Associates of Honour—The Associateship of Honour, which is conferred on "persons of British nationality who have rendered distinguished service to horticulture in the course of their employment," has been conferred on: Mr. F. W. Alesworth, Horticultural Journalist; Mr. C. T. Buckhurst, late of Messrs. Carters Tested Seeds Limited; Mr. W. D. Cartwright, of the R.H.S. Gardens, Wisley; Mr. J. P. Izzard, gardener to the Rev. Canon Rollo Meyer, of Little Gaddesden, Herts. Mr. R. W. Rye, gardener to the Earl of Stair, Lochinch Castle, Stranraer, Wigtownshire, and Mr. H. J. Woodhams, of Messrs. Armstrong and Brown, of Tunbridge Wells.

The A. J. Waley Medal, which is awarded "to a working gardener who has helped in the cultivation of Rhododendrons," has been awarded to Mr. R. Keir, gardener to the late J. B. Stevenson, Esq., of Tower Court, Ascot, Berks.

The Reginald Cory Memorial Cup, awarded with the view of "encouraging the production of hardy hybrids of garden origin, to the raiser of a plant that is the result of an intentional cross." Only a hybrid of which one parent is a true species is eligible, and it must have been exhibited at one of the Society's Shows and received an Award during the current year. Hybrids of annual and biennials do not come within the scope of the Award. This cup has been awarded to the Hon. Robert James, of Richmond, Yorkshire, for *Lilium* × 'St. Nicholas,' shown on July 10.

The George Monro Memorial Cup, awarded "for the best exhibit of vegetables shown by an amateur during the year," has been awarded to the Hon. Mrs. George Lane, of Oundle, Northants, for an exhibit on September 11.

The Lawrence Medal, "for the best exhibit shown to the Society during the year," has been awarded to The Commissioners of Crown

Lands, Windsor Great Park, for an exhibit of Rhododendrons, Azaleas and other woodland plants at the Chelsea Show.

The Sander Medal, "for the best new greenhouse plant of general utility shown to the Society during the year," has been awarded to The Leicester Corporation Parks Department for *Begonia* 'Festival Queen,' shown on December 4.

The George Moore Medal, "for the best new Cypripedium shown to the Society during the year," has been awarded to Messrs. H. G. Alexander Ltd., of Westonbirt, Glos., for *Cypripedium* 'Moonchild,' shown on October 23.

The Williams Memorial Medal, "for the best group of plants and/or cut blooms of one genus (fruit and vegetables excluded) which show excellence in cultivation, staged at one of the Society's Meetings during the year," has been awarded to Messrs. Blackmore and Langdon, of Bath, for an exhibit of Begonias, shown on July 10.

The Gordon-Lennox Cup, "for the best exhibit of fruit shown by an amateur during the year," has been awarded to the Hon. Mrs. George Lane, of Oundle, Northants, for an exhibit of Gooseberries and other fruits on July 31.

Council—Under Bye-law 44, each year three members of Council who have served longest since their election retire. The retiring members this year are Col. F. C. Stern and Mr. R. D. Trotter. The third retirement would have been that of Mr. George Monro who unfortunately died in his last year of office. The Council wishes to place on record its appreciation of and its grateful thanks for the many valuable services which they have rendered to the Society. Col. Stern will continue to assist the Society on the various Committees of which he is a member. The Council regrets that Mr. Trotter now lives so far away from London that he can rarely visit the Halls.

Committees, Judges, Examiners and Lecturers—The Council wishes to express its deep thanks to all those Fellows who have rendered such great and valuable assistance to the Society by serving on its Committees or acting as Judges, Examiners or Lecturers. The work of the Society could not have been carried out without this help which has been so freely given.

The Press—The Council once again wishes to express its thanks to the Press which has so consistently helped and supported the activities of the Society.

Staff—The Council has had, as always, very great assistance from their most hard working and loyal staff.

The Council would wish to express its gratitude to that staff, both at Headquarters and at Wisley.

The results of the skill and taste shown by the staff at Wisley during the last few years is becoming increasingly apparent in the beauty and interest of the Gardens.

Signed on behalf of the Council

ABERCONWAY

President

December 31, 1951.

THE NUMERICAL STRENGTH OF THE SOCIETY, 1951

Classification	Strength as at Dec. 31, 1950	Losses 1951			Elections and Admissions 1951	Strength as at Dec. 31, 1951	Net Increase or Decrease during 1951
		By Death	By Resignation	Total Losses			
Life Fellows	1,255	19	—	19	18	1,254	— 1
Fellows	33,342	573	2,267	2,840	3,891	34,393	+ 1,051
Overseas Fellows	1,010	8	128	136	349	1,223	+ 213
Associates	1,187	7	107	114	213	1,286	+ 99
Affiliated Societies	1,450	—	69	69	159	1,540	+ 90
Student Members	18	—	18	18	30	30	+ 12
Honorary Fellows	29	2	—	2	1	28	— 1
Associates of Honour	100	8	—	8	6	98	— 2
Totals	38,391	617	2,589	3,206	4,667	39,852	+ 1,461

THE ROYAL HORTICULTURAL SOCIETY

ESTABLISHED 1804. INCORPORATED 1809.

NOTICE IS HEREBY GIVEN that the ONE HUNDRED AND FORTY-EIGHTH ANNUAL MEETING of the Fellows of the Society will be held in the LECTURE ROOM, NEW HALL, GREY-COAT STREET, WESTMINSTER, on Tuesday, February 26, 1952, at 3 P.M. precisely, for the purpose of receiving the Report of the Council for the past year, and electing a President, Vice-Presidents, Treasurer, three Members of Council, and Auditor.

By Order of the Council,
C. V. L. LYCETT,
Secretary.

THE ROYAL HORTICULTURAL SOCIETY'S OFFICES,
VINCENT SQUARE, WESTMINSTER, S.W. 1.
January 15, 1952.

ANNUAL MEETING

To be held at 3 P.M., February 26, 1952

AGENDA

Minutes of the last Annual Meeting held on February 20, 1951.
To sign the Minutes.
Report of the Council.
President's Address.
Treasurer's Statement.
Adoption of Report of the Council.
Election of President.
Election of Vice-Presidents.
Election of Treasurer.
Election of Three Members of Council.
Election of Auditor.
The President will move that the following alteration in the Bye-Laws be approved:

Delete Bye-Law No. 14 and substitute the following:—

"To each Fellow and Associate whose subscription is in arrear a letter shall be posted by the Secretary in time to reach the Fellow or Associate not later than the last day of October requesting the payment of the arrears before the last day of December and stating that if his subscription is still in arrear on the last day of December he will cease to belong to the Society. Any Fellow or Associate whose subscription is in arrear on the last day of December shall be struck off the Society's list by the Council at its next Meeting and thereupon he shall cease to belong to the Society, but shall remain liable for his arrears of subscription and for other sums (if any) due from him, provided always that the Council may for any reason which they deem sufficient suspend the striking off of any Fellow or Associate."

Presentation of the Victoria Medals of Honour.
Presentation of Associate of Honour Badges.

[P.T.O.

Presentation of Veitch Memorial Medals.
Presentation of the A. J. Waley Medal.
Presentation of the Reginald Cory Memorial Cup.
Presentation of the George Monro Memorial Cup.
Presentation of the Gordon-Lennox Cup.
Presentation of the Lawrence Medal
Presentation of the Sander Medal.
Presentation of the George Moore Medal.
Presentation of the Williams Memorial Medal.

LIST OF NOMINATIONS

The following list of nominations of President, Vice-Presidents, Members of the Council and Officers for election is circulated in accordance with Bye-law 58:

	Proposed by	*Seconded by*
As President:		
Lord Aberconway, C.B.E., LL.D., D.Sc., V.M.H.	Mr. E. A. Bowles.	The Hon. David Bowes-Lyon.
As Vice-Presidents:		
Professor L. H. Bailey, LL.D., Litt.D. Mr. E. A. Bowles, M.A., F.L.S., F.R.E.S., V.M.H. Dr. Ernst H. Krelage. Dr. E. D. Merrill, F.M.L.S. Mr. F. Cleveland Morgan. Mr. B. Y. Morrison. Mr. C. G. A. Nix, V.M.H. Colonel The Hon. Sir Heaton Rhodes, K.C.V.O., K.B.E. Sir Edward J. Salisbury, C.B.E., D.Sc., F.R.S., F.L.S. Professor Sir William Wright Smith, M.A., F.R.S., F.R.S.E., F.L.S., V.M.H.	Lord Aberconway.	The Hon. Lewis Palmer.
As Treasurer:		
The Hon. David Bowes-Lyon	Col. F. C. Stern.	Mr. E. P. F. Sutton.
As Members of Council:		
Major A. Pam, O.B.E., M.A., F.L.S., V.M.H.	Mr. F. A. Secrett	Sir Giles Loder.
Mr. G. L. Pilkington	Mr. G. W. Leak	Dr. H. V. Taylor.
Mr. E. H. Savill, C.B.E., C.V.O., M.C., M.A.	Mr. W. Bentley	Mr. J. L. Russell.
As Auditor:		
Mr. F. G. Feather, F.C.A.	Mr. A. Cheal	Dr. George Taylor.

By Order of the Council,
C. V. L. LYCETT,
Secretary.

January 15, 1952

JOURNAL OF THE ROYAL HORTICULTURAL SOCIETY

Vol. LXXVII Part 2

February 1952

THE SECRETARY'S PAGE

ANNOUNCEMENTS—FEBRUARY AND MARCH

Shows

TUESDAY, February 12 12 NOON to 6 P.M. WEDNESDAY, February 13 10 A.M. to 5 P.M.	Fortnightly Show.
TUESDAY, February 26 12 NOON to 6 P.M. WEDNESDAY, February 27 10 A.M. to 5 P.M.	Fortnightly Show. Annual General Meeting at 3 P.M. on February 26.
TUESDAY, March 11 12 NOON to 6 P.M. WEDNESDAY, March 12 10 A.M. to 5 P.M.	Fortnightly Show. British Orchid Growers' Association's Show.
TUESDAY, March 25 12 NOON to 6 P.M. WEDNESDAY, March 26 10 A.M. to 5 P.M.	Fortnightly Show. Daffodil Competition. Camellia Competition.

Lectures

TUESDAY, February 12 at 3 P.M. "Artificial and Organic Manures" by SIR WILLIAM G. OGG, M.A., B.SC., PH.D.

TUESDAY, March 11 at 3 P.M. "Plants for the Small Conservatory" by MR. F. G. PRESTON, M.A., V.M.H.

TUESDAY, March 25 at 3 P.M. Subject connected with Daffodils, to be announced later.

Annual General Meeting—The Annual General Meeting of the Society will be held on Tuesday, February 26, in the Lecture Room of the New Hall at 3 P.M. precisely.

As the Lecture Room is not large enough to hold all the Fellows who wish to attend the Annual General Meeting, arrangements have been made to relay the proceedings to other rooms. Fellows arriving after the Lecture Room is full will, therefore, be able to find seats and hear the speeches in the Committee rooms on the floors above the Lecture Room.

The Gardens of the Villa Taranto, Italy—We have been informed that CAPTAIN NEIL MCEACHARN has decided to open his gardens at the Villa Taranto, Pallanza, Lake Maggiore, Italy, daily from April 1, 1952, onwards.

Publications—The following have been published and are available from the Secretary at the prices given below:

The Rhododendron Handbook, 1952—The Handbook has been completely revised and brought up to date since its publication in 1947. The list of species with descriptions and synonyms has been revised by DR. COWAN and MR. DAVIDIAN while the list of hybrid Rhododendrons has been amended by an expert Committee. The number of stars accorded and the hardiness ratings have been carefully considered by the Committee in the case of each species and hybrid, and this makes the volume of unique value to all growers of Rhododendrons. A list of collectors' numbers and the Rhododendron Stud Book are also included. Price £1 1*s*. 0*d*., postage and packing 9d., U.S.A. $3.25, post free.

The Rhododendron Year Book, 1951–2—Among the interesting illustrated articles in this issue of the Year Book is one on Rhododendrons at Brodick Castle, Isle of Arran, by the DUCHESS OF MONTROSE and MR. J. P. T. BOSCAWEN. This describes many of the rare and tender Rhododendrons grown on this island off the west coast of Scotland. MR. B. Y. MORRISON, a Vice-President of the Society, writes on the Glenn Dale Azaleas, a strain of hardy Kurume Azaleas raised by him in the United States. MR. F. HANGER, Curator of Wisley Gardens, contributes an article on Rhododendrons for the Cool Greenhouse. DR. COWAN and MR. DAVIDIAN continue the revision of Rhododendrons with a paper on the Thomsonii Series, and the forms of *R. repens* at Tower Court are discussed by MRS. R. M. STEVENSON and DR. COWAN. Price 12*s*. 6*d*. to Fellows and Associates only, postage and packing 9d., U.S.A. $2, post free; 15*s*. 0*d*. to non-Fellows, postage and packing 9*d*., U.S.A. $2.40, post free.

The Lily Year Book, 1951–2—This volume contains a most important and interesting article on recent advances in Lily breeding by DR. S. L. EMSWELLER of the U.S.A.; this will prove of interest to all Lily growers. Lilies in India are described by COLONEL LOWNDES, who recently visited Nepal, while CAPTAIN KINGDON-WARD discusses Lilies in Assam; the COUNTESS GREY describes the Lilies in gardens in Northumberland. The extracts from the Supplement to ELWES's Monograph are continued this year by the article on *Lilium Bolanderi*. The needs of beginners in Lily growing will be met by an article specially written for this purpose by MR. R. G. WALTER. Contributions from other overseas authors are also included. Price 12*s*. 6*d*. to Fellows and Associates only, postage and packing 9d., U.S.A. $2, post free; 15*s*. 0*d*. to non-Fellows, postage and packing 9d., U.S.A. $2.40, post free.

The Fruit Garden Displayed.—This is a comparable volume to *The Vegetable Garden Displayed* and gives concise details of all operations of fruit growing outdoors for gardeners. It is well illustrated with over 300 photographs and contains 176 pages. A cloth edition is published, bound in a specially tough and water-resisting binding. Price 6*s.* 0*d.* paper boards; 8*s.* 6*d.* cloth, postage and packing 9*d.*, U.S.A. $1 paper, $1.40 cloth, post free.

Report of the National Fruit Trials, 1921–1950, by J. M. S. Potter—This Report, compiled by the Director of the Trials, gives a review of the outstanding varieties during their trial period between 1921–50. The report also contains appendices relating to flowering period and pollination, and illustrations of some of the outstanding varieties. Price 2*s.* 0*d.*, postage 3*d.*

WISLEY IN FEBRUARY

THE steadily lengthening days and increasing power of the sunshine evoke a rapid response among the many plants which throughout the winter have gradually prepared for the spring display. In every part of the Gardens there will be found something of interest and beauty, from the small golden stars of *Crocus susianus* to the old, impressive specimens of *Pieris japonica*, while the collection of Dutch Crocus planted under the Apple trees near the Herbaceous Borders may be expected to make an attractive show.

At this time of year the Alpine House is bright with pans of early-flowering bulbs and alpine plants. Primulas are well represented by the almost stemless lavender-flowered *P. Allionii*, bright yellow *P. floribunda*, and the rosy-mauve *P. scapigera*. The hybrid Winter Aconite, *Eranthis* × *Tubergenii* (*E. hyemalis* × *E. cilicica*) is an excellent, free-flowering pot plant, but is equally useful for planting in the open, preferably among deciduous shrubs. There are several attractive Cyclamen species such as *C. pseudo-ibericum*, the paler *C. libanoticum*, *C. vernum* and chubby-flowered *C. coum*, while the lovely violet-blue *Anemone blanda atrocoerulea* usually attracts a good deal of attention. The earlier Saxifrages, including the many varieties of *S. Burseriana*, *S.* × *Jenkinsae*, *S. Irvingii*, together with other species and hybrids of the Kabschia type are now displaying numerous white or delicately tinted flowers.

On the rock garden the earlier Snowdrops, *Galanthus Elwesii*, *G. byzantinus*, the green-leaved *G. platyphyllus* (*latifolius*) and many Crocuses such as *C. aureus*, *C. Tomasinianus* and varieties of *C. chrysanthus*, have made an appearance. Beside the highest pond the insignificant flowers of *Sarcococca Hookeriana digyna* distil a delightful fragrance and near by are the pale blue flowers of *Puschkinia scilloides*.

Should the weather prove favourable, the earliest Rhododendrons will be in flower during February. *R. moupinense*, a low-growing species with white or pink-flushed blooms, occupies a sheltered corner near the top of the alpine meadow, but rarely escapes frost injury. Another good early-flowering Rhododendron is *R.* × 'Cilpinense,' as its name implies a hybrid between *R. moupinense* and *R. ciliatum*, and which, like

the rosy-purple *R.* × *praecox*, the hybrid 'Tessa' (*praecox* × *moupinense*), the saffron-yellow *R. lutescens* and the pale rosy-purple *R. mucronulatum* requires a mild spell to develop its full beauty.

In the Wild Garden and Seven Acres the Witch Hazels are still set with cheerful yellow flowers, and the many-hued winter-flowering Heaths are daily becoming more gay. Among the many varieties of *Erica carnea*, 'Queen Mary,' 'King George' and the pink and white 'Springwood' varieties are prominent, the last named particularly fine with innumerable sprays of snow-white flowers with brown anthers. *E.* × *darleyensis*, notable for its extended flowering period, should find a place in every garden, large or small. *Erica arborea alpina*, an extremely hardy heath from the mountains of Cuencia in Spain, has a stiff erect habit; and at this season, although it is not yet in flower, its rich green foliage is extremely pleasing. There is another large specimen of this variety in the Award of Garden Merit Collection where *Prunus Davidiana alba* and a carpet of blue *Chionodoxa sardensis*, spread beneath a Witch Hazel, create a delightful picture.

Against the wall near the greenhouses is planted *Abeliophyllum distichum*, one of the most promising additions we have had in comparatively recent years to the range of early-flowering shrubs. A native of Korea, it is very hardy, even the flowers withstanding a few degrees of frost. Allied to the Forsythias, it bears axillary racemes springing from the last season's growth.

The Stove House is well stocked with interesting plants, principally Begonias, Hippeastrums and a variety of ornamental foliage plants. Many Calanthes and Cymbidiums are in flower, and to mention individual plants, there are *Lycaste cruenta*, *L. Skinneri*, the strange peach-coloured flowers of the Himalayan *Coelogyne flaccida*, vermilion *Cochlioda Noezliana* and yellow-flowered *Oncidium bicallosum*.

Camellias are among the most attractive occupants of the Temperate House. *C. japonica* 'Magnoliaeflora' with pale pink, semi-double flowers, and the waxy, single-flowered *C. japonica* 'White Swan' bloom for a long period every season, as does *Rhododendron mucronatum* and the larger-flowered *R. ciliicalyx*. Species of Acacia, Epacris and Erica are still in flower and the bright orange spikes of the Lachenalia hybrids combined with the smoky-blue ones of *L. glauca* make a welcome patch of colour on the side staging. Several plants among the Succulent collection are in flower such as the bright red *Echeveria carnicolor* and the pendent clustered, dusty-pink blossomed *Kalanchoe Daigremontiana*.

Against the Laboratory walls is a specimen of the 'Winter Sweet,' *Chimonanthus praecox*, perhaps more likely to betray its presence to the passer-by by the sharp, spicy perfume rather than by the subdued colour of its blossoms. The variety *luteus*, of which there is a fine plant further along these walls, has larger clear yellow translucent flowers and is a thoroughly desirable shrub.

On the border beside the drive is *Nuttallia cerasiformis*, a plant seldom mentioned in these pages but which is nevertheless quite decorative. It has the habit of a blackcurrant and carries dense pendent bracted racemes of strongly almond-scented white flowers followed by exceptionally bright green leaves.

A WOODLAND GARDEN IN WEST SOMERSET

Norman G. Hadden

(*Lecture given on October* 23, 1951; DR. GEORGE TAYLOR, *in the Chair*)

IT was during a hot, dry summer seventeen years ago that I first entertained the idea of making a woodland garden: all the Primulas and Astilbes in the garden were dying or wilting and I looked with envy on the lush growth of the wild plants growing alongside the stream banks in the near by woods. I realized that it would be useless to plant anything or scatter seeds in the wood without first excluding rabbits, sheep and deer, so having come to a satisfactory agreement with the owner of the woods I decided to enclose an area which would give various aspects with both dry and moist conditions.

Hawksnest Wood, the ground selected, covers about two acres and is saddle-shaped, one side sloping to the east, the other to the west. It is very steep, reaching from about 100 to 400 feet at the highest point. Two streams flow through, one on each side, and unite at the northern boundary. There are two small natural bogs which never dry out nor flood. The streams are very swift and apt to overflow in spate. The natural vegetation consists of Oak, Ash, Birch and Rowan with a ground cover of Whortleberry (in parts Heather) and a quantity of Ferns. Bracken has had to be eliminated by regular cutting down over many years when young; now it only occurs near the boundary fences. Sufficient timber was obtained by thinning out to supply the posts for the fencing which has to be 6 feet high to keep out red deer; the lower half is of small mesh wire netting bent outward at the top—until this was done young rabbits used to climb up and slip through the larger mesh of the deer fence.

The soil is a rather thin acid loam, intermixed in places with peaty leaf-mould; it is nowhere deep, the rock being never far from the surface. When enough trees had been removed, we began to bring some Rhododendrons and other shrubs from the garden. As the wood is half a mile from home and approached by a very rough, steep path not very many plants could be dealt with at a time. Everything had to be brought on a barrow and taken to its destination by hand.

The charm of a woodland garden lies largely in its natural surroundings and indigenous life. I have always tried to avoid having anything of a cultivated look in the wood; the shrubs have been planted in prepared sites but with the native undergrowth left around them. I think they take longer to establish than they do when the ground has been completely cleared but the effect is much better and everything looks as if it belonged to the wood. Similarly one must avoid plants that look out of place in a wild garden, though it is difficult to describe what one feels would be unsuitable—most double flowers, Roses other than species, anything associated with bedding out or formal gardens. Strange to say some decidedly exotic-looking plants like Beschorneria and Callistemon fit into the landscape excellently.

From the top of Hawksnest Wood there is a glorious view across Porlock Bay to South Wales, framed by stretches of Oak woods on either side, which incidentally protect the combe from severe gales. We seldom register more than 10 degrees of frost in the wood though snow has occasionally done a great deal of damage. Our annual rainfall is heavy, about 45 inches; in 1950 it was 55 inches. Rhododendrons naturally revel in these wet seasons but I think they flower better after a dry summer. Bird-life is always a feature of woodland and we enjoy the presence of many species. Buzzards are constantly seen as they circle overhead—they nest further up the combe. The cry of curlews, herons, redshank and other waders comes up from the marshes, while many small warblers, tits and finches find nesting sites in the enclosed area. Butterflies, too, add interest; Purple Hairstreaks flit over the Oaks while the colony of Buddleias specially planted for their benefit is very popular with the Vanessas and Fritillaries. Once we were visited by a White Admiral, the only one recorded for West Somerset.

It is not difficult to find something of interest in a woodland garden at all times of the year. Our first Rhododendron is *R. mucronulatum* which usually opens a few flowers by New Year's Day, though its full display takes place some weeks later according to the weather. Its cheerful mauve flowers are truly welcome in the dark days and associate happily with the golden spider-blooms of *Hamamelis mollis*. Close on their heels comes *Rhododendron moupinense* in white or apple-blossom pink, though these are rather more susceptible to frost damage than *R. mucronulatum*.

The best of the Cherries in the wood is *Prunus Conradinae*, a mass of semi-double pale pink blossoms in February; it is quite a large tree now and took some years before making much of a show. I think it requires—it certainly deserves—a sheltered position. I do not count *P. subhirtella autumnalis* among early flowers as it is at is best in November and December, though flowering to a lesser degree well into March. *P. incisa* is attractive in March, too; some years ago I sowed a few seeds collected in my wood from *P. incisa* and they have produced a variable batch of plants showing obvious signs of crossing with *P. subhirtella autumnalis*. They flower early in the New Year.

On a steep bank facing south-east I grow a good many Brooms. The lemon *Cytisus praecox* is the first to flower (Fig. 20) and is charming associated with the purple *Rhododendron praecox*, all rising from a carpet of *Erica carnea* 'Springwood.' Young plants of the Spanish *Adenocarpus decorticans* are growing on the same sunny bank and have withstood some severe winters: it is a grand shrub, almost a tree when mature, smothered with large golden gorse-like flowers and certainly deserves to be better known in the south and west (Fig. 27). Beside the steep path a planting of the dwarf *Rhododendron pemakoënse*, *R. flavidum*, and Heaths makes good ground cover. *Arenaria grandiflora* is becoming naturalized and looks charming growing among *Lithospermum prostratum*.

Gunneras have taken possession of a damp bit of ground where a spring rises and grow enormous leaves in summer; they are very attractive in late spring when the club-like flower spikes are developing. Several shrubs, which appreciate moist conditions, find a home near by

—*Nyssa sylvatica*, the curious golden-barked *Alnus canescens* with pink catkins in winter, *Salix gracilistyla*, and Hydrangeas of the Lace-cap type, notably the aptly named 'Blue Wave.' The large-leafed Indian *H. robusta* also grows here, but it is tender and liable to be cut by hard frost.

Clematis montana in various forms have climbed to the top of the Birch trees and revel in their unpruned existence. My favourite of all the Rose species is *Rosa filipes* which here has covered a big old Mountain Ash and is a wonderful sight in July with its innumerable trusses of flesh pink, deliciously scented flowers. It certainly requires space but might be planted more often than it is. Another (and even more rampant) Rose is *R. sino-Wilsoni* which has climbed 30 feet up an Ash and taken possession of yards of ground as well. It has handsome glossy foliage and attractive white flowers in large clusters, but its thorns are so fierce and the growth so prodigious that I do not recommend it to everyone.

Wherever the soil seemed suitable for a Rhododendron, there a Rhododendron has been planted, for are they not the aristocrats of the shrub world? Species and first crosses are my favourites though many of the modern seedlings of complicated parentage are certainly very desirable. Where there is least danger of wind damage we have a fine specimen of *R. giganteum*, not yet flowered here but with striking foliage. Some of the leaves measure 23 inches in length (Fig. 25). It was severely defoliated in the winter of 1947 but has completely recovered. *R. sinogrande* (both FORREST'S and KINGDON-WARD'S forms) are growing into handsome plants but have not flowered yet. *R. Macabeanum* flowers well with me but is not the best yellow form. Higher up on the bank *R.* 'Loderi' var. 'Pink Diamond' has made a big plant and is a lovely sight when in full flower.

Thanks to our usually mild winters we are able to grow most of the so-called tender Rhododendrons satisfactorily and as most of the Maddeni and Edgeworthii sections have sweetly scented and beautifully shaped blooms they are invaluable plants for sheltered woodland conditions. Pride of place must be given to that old hybrid 'Lady Alice Fitzwilliam' which seldom fails to weigh itself down with masses of great white flowers of the most delicious nutmeg fragrance; a group of it growing just above one of the paths has covered a considerable amount of space. Somewhat similar are 'Countess of Sefton,' 'Countess of Haddington,' 'Fragrantissimum,' and 'Sesterianum,' but these are not quite such strong growers with me yet. *R. formosum* has rather smaller flowers later than the others of this group. This year a fairly large plant of *R. Dalhousiae* bore dozens of flowers, superb in beauty and fragrance. Perhaps *R. Lindleyi* should bear the palm for classic beauty with its great waxy white trumpets, but being by nature an epiphyte it grows into a very straggling plant. *R. megacalyx* and *R. manipurense* have formed large bushes and provide us with noble white fragrant flowers in June and July. The lily-like *R. rhabdotum* is so far only a babe in my wood but produced a few magnificent flowers last July.

April and May are, of course, the richest months for Rhododendron flowers but I find that we usually have some species in bloom in every

month except October, November and December. The Japanese *R. Amagianum* with rather small orange-scarlet flowers is welcome in July; it is related to the earlier *R. Weyrichii* and both have very handsome foliage quite unlike that of most Rhododendrons. Of the same section *R. Albrechtii* is invaluable for its bright rosy flowers before the leaves in early spring. In May we enjoy the lovely delicate pink blooms of *R. Schlippenbachii*, a species which demands shelter from late spring frosts if it is to give of its best. *R. lutescens* is one of the earliest species to flower, though it is not particularly showy; I am glad to see a number of self-sown seedlings have come up on the mossy path beside my biggest specimen. It is always encouraging to find one's plants reproducing themselves naturally as it shows they have made themselves at home. All the same, how few of the Chinese Rhododendrons seem to sow themselves in this country! Planted apart from other red or purple flowers, a colony of *R. obtusum amoenum* provides a really fine mass of colour with its vivid magenta, but it must not be grown within sight of more refined pinks and reds of the Kurume class. It associates well with the yellow *R. Keiskei* which is a species that thrives particularly well in my wood.

Among the hybrids, I grow the noble 'Cornubia' for its large scarlet flowers in March, 'Loder's White,' 'Dr. Stocker,' 'Mrs. G. W. Leak,' 'Margery Slocock,' 'Faggetter's Favourite,' 'Vanessa,' 'May Day,' 'Tally Ho,' 'Earl of Athlone,' 'Aladdin,' 'Polar Bear' and many others, all of which give much pleasure when their turn to perform comes round. Of the smaller hybrids Blue Diamond' stands out as one of the best of the blue Rhododendrons, while 'Bric-à-brac,' 'Yellow Hammer,' 'Elizabeth,' and 'Humming Bird' are great favourites of mine. *R. Wardii* has been a disappointment to me, it grew into a large plant, never flowered and has now died. *R. campylocarpum*, I am glad to say, thrives and flowers abundantly, still about the best of the Himalayan species.

All members of the genus Pieris are eminently desirable; nothing can surpass in brilliance the scarlet young shoots of *P. Forrestii* (Wakehurst form) (Fig. 26) though the bronze growths of *P. formosa* and *P. japonica* are very beautiful amongst the racemes of Lily-of-the-Valley flowers. *P. taiwanensis* is happily placed just above a path where one looks up to its long pendent racemes. *P. floribunda* sets its flower buds in late summer to open in early spring. A good form of this old favourite is excellent but there are inferior forms as well. I like shrubs like this and Rhododendrons which let me know in winter what they intend to do in the flowering line next season; it is cheering in the dead of winter.

The Gaultherias are a precious group of Ericaceae for woodland, mainly as small fruiting shrubs. The best one I grow is *G. semi-infera* which forms a bush 5 feet high and carries innumerable rich blue berries. Rather smaller but with even brighter blue berries is *G. tetramera* which fruits better than *G. Forrestii* though the latter has more attractive flowers. A very dwarf one is *G. sinensis* with blue berries the size of sparrows' eggs, a real treasure for the foreground. The Gaultherias I have mentioned are all Asiatic but Tasmania has provided us with the very attractive white-berried *G. hispida* which grows from 2–3 feet high. *Pernettya*

(or *Arbutus*) *furiens* is an interesting purple-berried small evergreen from the far south of South America where the natives appreciate its fruits for their wildly intoxicating properties. *Drimys Winteri* is a well-known shrub in West Country gardens; it flowered exceptionally well this year and is about 30 feet high. The much rarer *D. andina* is a miniature of *D. Winteri*, not more than 3 feet with me and it flowers well regularly.

The Japanese Shortias and Schizocodons thrive well in the wood and are spreading into healthy clumps among the moss and Whortleberry; unfortunately mice have a passion for Shortia buds and destroy more than their share. *Epigaea asiatica* is making itself at home in a very shady nook and Mr. Marchant's lovely hybrid 'Aurora' is also growing well. *Linnaea borealis* promises to establish itself, not only the American form but also plants collected in the Austrian Tyrol; I do not think that Pine needles are essential for their welfare. The rare *Mahonia acanthifolia* is a striking foliage plant at all seasons and has produced a few yellow cockades of flowers in mid-winter. It is sometimes confused with the more glossy-foliaged *M. nepalensis*, which never flowers before March with me.

The Camellia season begins with *C. Sasanqua fragrans* (the false *C. oleifera*) in November whose creamy flowers are pleasantly scented, soon to be followed by other Japanese varieties of *C. Sasanqua*. I find these flower much better after a hot summer and believe they require a good deal more sun than the varieties of *C. japonica*. A very charming semi-double white variety called 'Fuka-gutsumi' came to me from Japan many years ago and flowers regularly in November. I find that most of the *C. japonica* forms are better suited to the richer soil of the garden than to the rough woodland conditions.

Embothrium longifolium enjoys a partially shaded position in a sheltered part of the wood and is a striking sight when in full glory. I have planted several seedlings of the Norquinco form on steep banks; I think it is essential to put them out when quite small for otherwise the roots fail to anchor themselves and they fall victims to gales. Near the biggest Embothrium *Pterostyrax hispidum* is doing well, a most attractive tree when laden with its pendent racemes of white flowers. Another striking tree is *Halesia monticola*, which is very much better than *H. carolina*, being more of a forest tree and delightful in May when hundreds of large Snowdrop-like flowers dangle from every twig. I gave it a choice position in rich moist soil and it has amply repaid me. At its foot *Fothergilla major* brightens up the spot with golden tints in late autumn. Such species of Hydrangea as *H. xanthoneura*, *H. aspera* and *H. villosa* are of great beauty in late summer, and all appreciate fairly moist conditions.

West Somerset is not an ideal district for autumn tints but I have planted a good many shrubs which sometimes colour well and prolong the interest until the middle of November. I find *Oxydendrum arboreum* (Sorrel tree) one of the most reliable of autumn shrubs, at any rate in its rather shy-flowering form which seems to attain a much better colour than more floriferous forms. Not only is it brilliant in colour but it holds its leaves for a considerable time. Of the Mountain Ashes I

rate *Sorbus Conradinae* very highly, closely followed by *S. insignis*, a most distinctive small tree which not only colours well but carries large panicles of very small red berries which are distasteful to birds and so hang on the tree until the spring. The white-berried *S. oligodonta* and *S. Matsumurana* (large scarlet fruits) both colour very well.

Most of the Maples give good autumn colours but *Acer palmatum* 'Osakazuki' is quite outstanding when a blaze of vivid scarlet early in November; I notice it is particularly appreciated by my hunting friends. Rather earlier in autumn the smaller *A. Sieboldianum* challenges attention, as do those grand plants *A. rufinerve* and *A. griseum*. Among the lesser shrubs the Enkianthus species are invaluable for autumn colour; best of all, I think, is *E. perulatus* (*japonicus*) which usually turns brilliant shades, but E. *cernuus rubens* and its white variety run it close. *Callicarpa Giraldiana* is noteworthy for its profusion of tiny mauve berries, so wonderful for their lasting powers and fascinating to arrange with the Algerian Iris flowers in winter.

Shortage of labour and time have rendered it impossible to do much in the wood with non-shrubby plants, but a colony of Fortin's variety of Lily-of-the-Valley takes care of itself and has spread well in rough grass. Elsewhere there is a flourishing group of the American form of *Maianthemum bifolium*, much larger than the European form. In the bog the great golden Arums of *Lysichitum americanum* are among the earliest flowers to greet the spring, though I have failed to establish the lovely white species from Kamschatka.

Experiments with Lilies have not been very successful, they disappear after a few years, though one or two *L. auratum* have survived for a long time. Mice are a constant menace to the bulbs and enormous slugs are only too much in evidence; however many are killed off by poisoning. I have caught hundreds of mice in large jars sunk in the ground to their rims, and owls levy a heavy toll on the pests.

The native ferns are quite a feature of the wood and a few exotic species that have been planted, such as *Dicksonia antarctica*, *Woodwardia radicans* and *Lomaria magellanica*, flourish and associate well with the Male, Lady, Hay-scented, Polypody and other natives.

When the last leaves of the deciduous trees have fallen and most of the berries have been eaten by birds (they will not touch *Viburnum betulifolium* though) one can appreciate the beauty of the bark of many species, notably some of the Birches and Maples. *Betula sinensis septentrionalis* has lovely pinkish mauve bark in contrast to the glistening white bark of several Birches, while the snake-barked Maples and the brilliant ruby red of *Acer pennsylvanicum erythrocladum* add interest and variety to the winter garden.

NOTES ON CERTAIN MAGNOLIAS PLANTED IN WINDSOR GREAT PARK

T. H. Findlay

WHEN our recent plantings of Rhododendrons and other Ericaceous plants were made in the Woodland Gardens in Windsor Great Park, we took the opportunity to plant a number of the tree-like Magnolias as second story plants to form a foil to the Rhododendrons as well as to provide shade. It is hoped that they will eventually flower, and in so doing, introduce these wonderful plants to the public, who may not be familiar with the fine plantings in Cornwall and at Bodnant.

As the area where they are planted is a large one, we were able, in our opinion, to give them the best sites possible, with due regard to protection from wind and early spring frost, and without detriment to the main planting of Rhododendrons and Azaleas. Some are planted on the lower slopes of our Rhododendron valley so that when these flower we shall be able to view them from eye level; others against a dark background of *Rhododendron ponticum*. All are planted in open woodland, and so get full sunshine during some part of the day; none are planted directly under trees. All plants have good natural drainage, and most were planted on trenched ground.

Most of the planting of these Magnolias had taken place since the spring of 1946, and with one or two exceptions the plants have been purchased from Nurserymen in the British Isles. The method employed when planting was to open a hole 6 feet across and 2 feet deep, to break up the bottom layer thoroughly and to fork into this some good leaf soil. The excavated soil was then mixed with two barrow-loads of lime-free loam, two barrow-loads of leaf soil, and a 5-inch pot of medium bonemeal. Planting took place at any time during early spring —February, March and April—or in autumn from September to November.

Careful attention has been given to pruning, as in most cases the trees planted were wanted to form (1) a noble flowering tree, and (2) a shade tree for the Rhododendrons underneath. Besides this some of the tree Magnolias are wonderful foliage plants, worth growing for that purpose alone. Most of the pruning, which consisted of keeping a good leader and of branch thinning, is carried out in June, as it has been found that a cut made at that time of the year soon callouses over and is unnoticeable by autumn on a vigorous young tree.

Some of our Magnolias, such as *Campbellii* and *Veitchii* threw up a strong growth from the base, the year after planting; when this occurred, we pruned back the original growth, thus encouraging the new shoot, which usually formed a much nicer tree of fast growth, needing no staking. Of course most of our plants are on their own roots. We have found that young two- to three-year-old plants grow much more satisfactorily than old stags.

Two things which we find Magnolias seem to hate are lack of moisture at the roots during the growing period and direct sunshine on the young fibrous roots. A good mulch of rotted leaves every spring gets over the sun problem and a hosepipe solves the drought difficulty.

Some details of the rate of growth of Magnolias in our gardens may be of interest.

Magnolia Sargentiana var. *robusta* must take pride of place. Planted in March 1946, when 2 feet high, it is now 20 feet high and 10 feet through, with a stem clear of branches for 5 feet. Circumference of stem at 3 feet is 12 inches, leaves 8 inches by 5½ inches. This year's growth alone was 3 feet. Other plants of this Magnolia in different parts of the garden have also made this rapid progress. We hope *M. Sargentiana robusta* will flower at any time now, as smaller plants than this have flowered in Cornwall and North Wales.

M. Campbellii planted at the same time is now 15 feet high. This tree was 3 feet when planted, but grew away from the base the following year, and was pruned as described above. It has a clear stem for 6 feet with side branches 5 to 6 feet in length. Other plants of *Campbellii* are equally vigorous although more spreading in habit.

The hybrid *M. Campbellii* × *mollicomata*, sent from Kew in 1948 and planted in October of that year, has made a beautiful young plant, 10 feet high and 7 feet through, with a growth of 2 feet 6 inches this year.

We have planted a great many plants of *M. mollicomata*, all are good growers. The earliest planting was in the spring of 1948. 2 feet tall when planted, it is now 11 feet with side branches 5 feet long. These side branches have a much more fastigiate habit than other Magnolias of this type. This Magnolia is easily raised from seed if sown as soon as ripe.

M. Dawsoniana, planted in the spring of 1948, is now 10 feet 6 inches high by 6 feet through. It is a really nice-looking plant with lovely dark green foliage, about the darkest in colour of any of the deciduous Magnolias. The year after planting three shoots grew from the base of this plant. The best was selected and the other shoots as well as the main growth were cut out in early June. Although some of these Magnolias are growing very fast, no damage has occurred from frosted buds or growths.

Layers of *M. Veitchii* from the original *Veitchii* at Exeter were obtained in October 1948; these are now 9 feet high, with side branches 5 feet in length. This year's growth alone is 3 feet and looks very vigorous. These again were growths from the base, and not the original lead.

Another good Magnolia is *M. Sprengeri diva*: this plant, with us, was very slow to start. Planted in March 1948 at 12 inches it has this year got away and is making good growth, is now 6 feet 1 inch, this year's growth being 2 feet 3 inches.

M. rostrata when planted in April 1948 from a 5-inch pot, was 9 inches high, is now 4 feet 6 inches but as yet no side branches have formed. Leaf size 15 inches by 9 inches.

A plant well established in some gardens is *M. obovata*. Here we have a specimen 23 feet tall. A stunted plant 6 years ago it was given

Photo, J. E. Downward

A WOODLAND GARDEN IN WEST SOMERSET

FIG. 20—*Cytisus praecox* on a steep slope facing east (See p. 38)

A WOODLAND GARDEN IN WEST SOMERSET

FIG. 21—The view from the top seat over Porlock Bay

Photo, J. E. Downward

A WOODLAND GARDEN IN WEST SOMERSET

FIG. 22—A woodland path with Ericas and Rhododendrons

Photo, J. E. Downward

Photo, J. E. Downward

A WOODLAND GARDEN IN WEST SOMERSET

FIG. 23—"Charley's Steps" with plantings of Rhododendrons and other dwarf shrubs

Photo, J. E. Downward

A WOODLAND GARDEN IN WEST SOMERSET

FIG. 24—A woodland stream with ferns

Photo, J. E. Downward

A WOODLAND GARDEN IN WEST SOMERSET

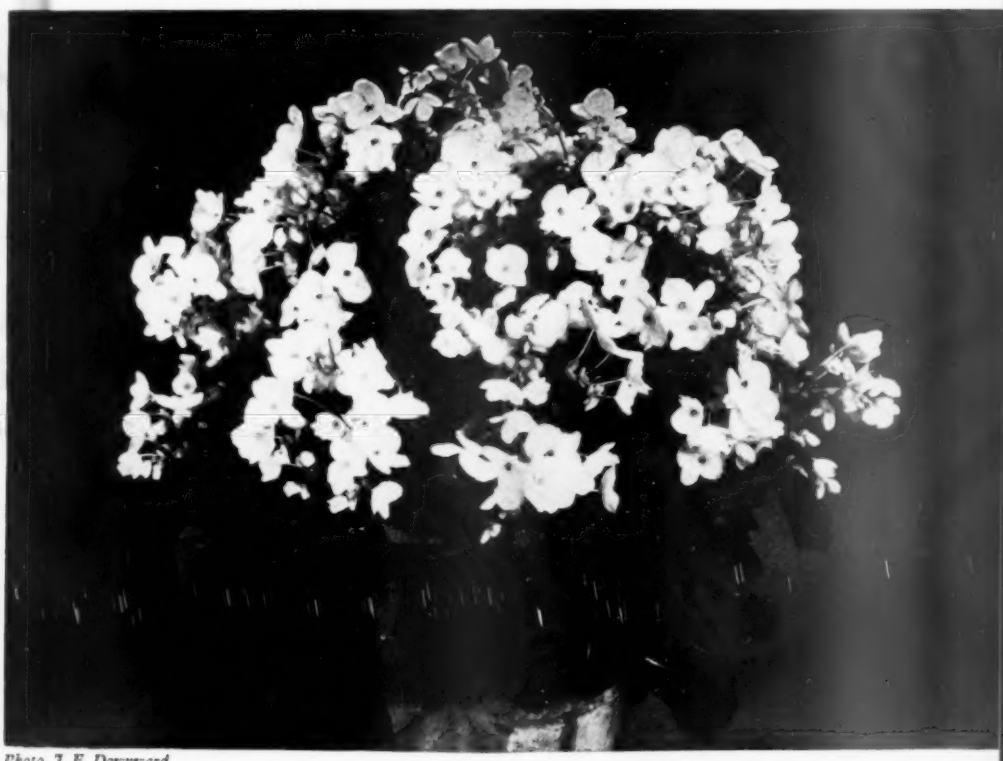
FIG. 25—*Rhododendron giganteum* with a young Palm (See p. 39)

Photo, J. E. Downward

A WOODLAND GARDEN IN WEST SOMERSET

FIG. 26—*Pieris Forrestii* (See p. 40)

FIG. 27—*Adenocarpus decorticans* in MR. NORMAN HADDEN'S garden at Underway, West Porlock (See p. 38)



Photo, J. E. Downward

THE SANDER MEDAL, 1951

FIG. 28—*Begonia* 'Festival Queen' **A.M.** December 4, 1951. **Exhibited by The Leicester Corporation**

FIG. 29—Belgian Witloof forcing pits (See p. 50)

WITLOOF CHICORY

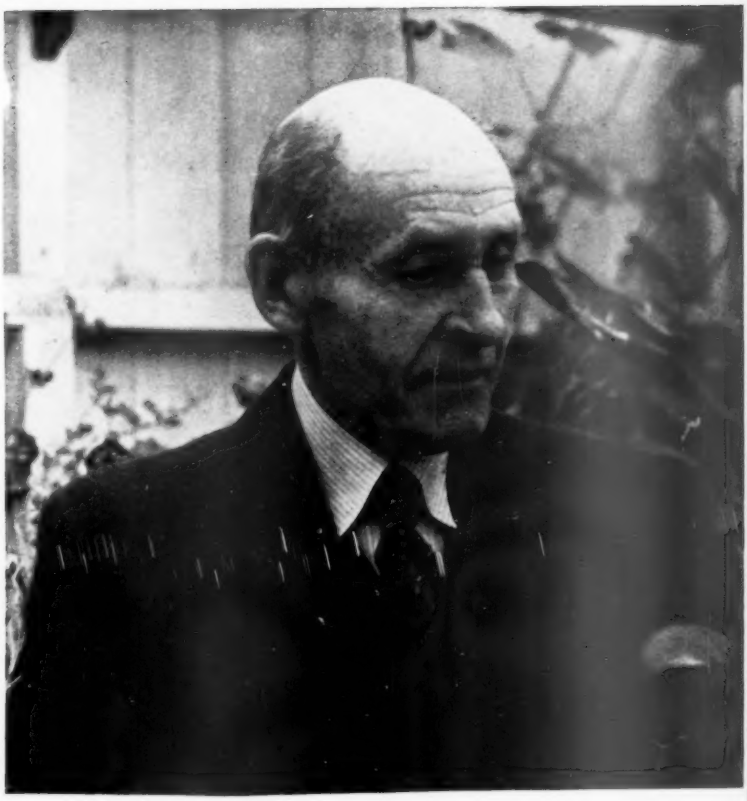
Photos, Jean Malvaux S.A.

FIG. 30—Harvesting Witloof in Belgium (See p. 52)

FIG. 31.
GEORGE H. JOHNSTONE, O.B.E
Victoria Medal of Honour, 1951

Photo, T. P. Roskrow

FIG. 32.
Dr. A. M. AMSLER
Victoria Medal of
Honour, 1951



Photo, Brian L. Piper

FIG. 33.
Lt.-Col. P. C. KAY, D.S.O., M.C.
Victoria Medal of Honour, 1951

Photo, Hay Wrightson

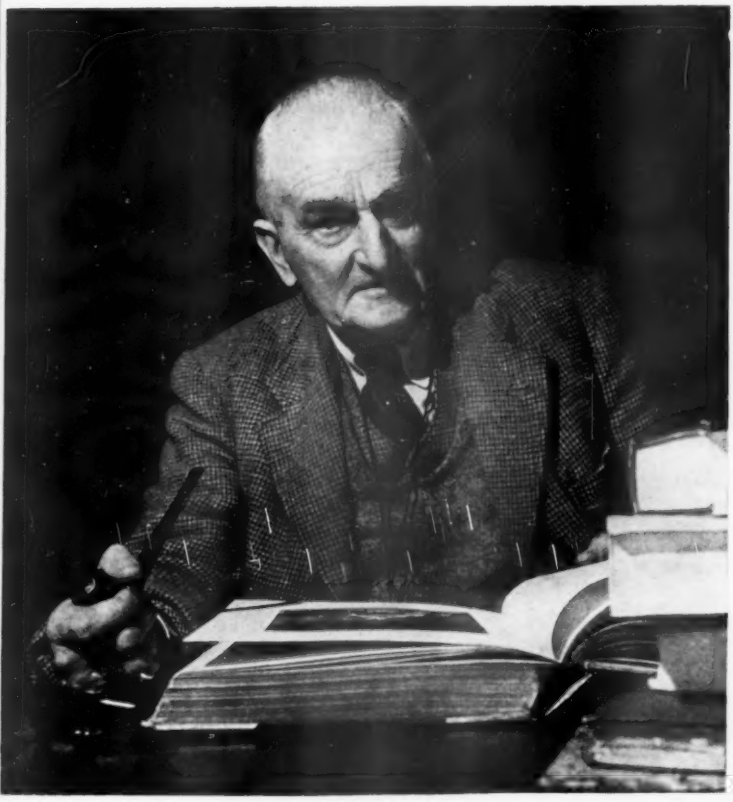


FIG. 34.
CLARENCE ELLIOTT
Victoria Medal of Honour, 1951

Photo, P. E. Pritchard

Photo, J. E. Downward

THE REGINALD CORY MEMORIAL CUP

FIG. 35—This cup was awarded to the HON. ROBERT JAMES, Richmond, Yorks., for his exhibit of *Lilium* × 'St. Nicholas' **A.M.**, shown on July 10, 1951

a good dressing of old cow manure and a little bonemeal, and since then grows at a rate of 2 to 3 feet a year. A magnificent foliage plant with leaves 16 inches by 8 inches it is especially suitable of association with, and as a background for *Lilium giganteum*, *Meconopsis betonicifolia* and *M. Wallichii*.

Similar both in foliage and flower is *Magnolia officinalis*. Moved into the park here from a garden a few miles away in December 1948 when 10 feet high, it is now 14 feet high with an 8-foot spread. This year's growth was 1 foot 6 inches.

A newish plant *M. officinalis* var. *biloba*, which has a broad leaf and golden winter bud, has settled down after slow growth for a year. Planted November 1948, it is now 11 feet high and should make a good tree.

M. tripetala, the North American Umbrella tree, is a fine subject for a sheltered valley and should be planted more extensively for it makes a grand foliage plant, lovely in autumn, with its scarlet candle-like fruits. A plant, moved in the spring of 1947 when 10 feet high, is now 18 feet high. This year's growth was 3 feet, average leaf size 16 inches by 8 inches.

Another American, *M. macrophylla*, with an average leaf size 24 inches by 10 inches is probably the best foliage plant we have in deciduous trees. A plant here moved from Townhill Park in September 1948 has never looked back, and is now 18 feet. This year's growth 18 inches. An older plant (20 feet by 10 feet) in another part of the garden has reached flowering size and produced good seed last year.

Although growing well in other parts of the country, *M. Fraseri* has been disappointing. Planted in 1948 when 2 feet 8 inches tall, it is now only 2 feet 10 inches, a growth of barely an inch a year, but we hope one day it will make a tree.

The hybrid *M. Watsonii* is a rather spreading type, but I think it possible to train it to tree-like form. Very vigorous when grown on its own roots, it likes an open situation. Layers from our large plant are in vigorous health and grow 18 inches a year. Last year's cuttings (we made four successful ones) have grown 12 inches this year.

One of the very best Magnolias is *M. salicifolia* a good garden plant, free of growth, and after 10 years or so a very reliable free flowerer. Two forms are growing here, one a large spreading tree, the other with willow-like leaves and fastigiate habit. A plant of this fastigiate form was moved in early Autumn 1949 when 20 feet high. The leader has put on 1 foot this year. This tree can be very effective in autumn with its curious twisted seed pods.

Similar in habit is *M. Kobus*, a good grower and absolutely hardy, although with us it takes longer to reach flowering stage. Young plants are growing at the rate of 24 inches a year.

This Magnolia needs training to a single leader when young. If allowed to grow naturally is inclined to become too bushy headed.

Although not trees, large plantings have been made of *M. Wilsonii*, *sinensis* and *Sieboldii*, all are very fast growing and the best of subjects for the woodland garden, making large-spreading bushes 15 to 20 feet high. When young they will put on 3 feet of growth each season.

A close relation to the Sinensis group *M. globosa* is a scrubby plant with us, always making good growth, always getting frosted. Now only 4 feet after eight years in its present position.

In the evergreen section *M. grandiflora* var. *lanceolata*, is growing well after being planted out. Planted in late spring 1948 from pots when about 2 feet tall is now 5 to 6 feet high and 4 feet through.

M. Delavayi planted in the spring of 1948 is 5 feet high and 7 feet through. It is inclined to be much more spreading, due no doubt to its rather tender growth buds being frosted each year. However, it is a very nice evergreen and so easy to layer that a stock can always be kept in hand in case of zero frosts in the near future.

Two plants of *M. nitida* were planted out in April 1948. Although looking very healthy, they are very slow in growth as yet, only growing an inch yearly.

M. glauca has reached flowering size from older plantings, but on the whole is a slow grower.

The 1951 planting consists of *M. Soulangiana* 'alba superba,' *Ashei*, *Campbellii alba*, *denudata*, *Lennei*, *mollicomata* (seedlings) and *Veitchii* var. 'Isca.'

To keep the Magnolias in good health and growing freely, we give them all an annual mulch of leafsoil with the addition of a little old cow manure every other year. This mulching usually takes place in the spring after the general winter clean up. No forking or digging is allowed near the roots, which are usually just under the surface and hate to be disturbed. Of course as the trees grow in size so the mulch will have to be increased in ground coverage. The leafsoil we use is only leaves of the previous year, collected and heaped for twelve months. We find the plants like this better than the heavier and more matured leafsoil. I think there is more plant food in it when it is not too decayed.

Young plants can be obtained from most of the Magnolias mentioned by taking cuttings in June or July, when the young growths are quite soft. We use a heated sand frame in a heated house (see R.H.S. JOURNAL, **76**, 138).

Magnolia stellata and *M. salicifolia* are probably the easiest, with *M. Kobus* a good third. 80 per cent. to 90 per cent. of the cuttings taken of these three have rooted. Incidentally a lot of the propagating material is obtained when we prune our trees in June.

Usually *M. salicifolia* produces a crop of seed, but we have so far failed to obtain a good germination, only one or two from hundreds of seeds sown. Yet self-sown seedlings have appeared under our older trees of this species.

WITLOOF CHICORY

Allan A. Jackson

HORTICULTURAL DEPARTMENT, WYE COLLEGE, UNIVERSITY OF LONDON.

WITLOOF CHICORY is one of the most important winter vegetables of Northern Europe but its use has never developed in Britain. It is a vegetable of high quality, and is particularly valuable as it can be eaten either as a salad, or cooked in a variety of ways. It is in season throughout the winter months, when it makes a pleasant change from the usual range of roots and Cabbage.

Its importance in Northern Europe is largely due to the fact that its winter production is independent of weather conditions, and that it does not need expensive forcing structures. No plants of the Cabbage family can be overwintered in the areas where Witloof Chicory is in common use. Perhaps one reason for its neglect in this country is the fact that our temperate climate permits the wintering of various members of the Cabbage family. This is no reason why we should not take advantage of this choice vegetable, and it is hoped that this study will help to arouse interest in its production.

ORIGIN AND HISTORY

Cichorium Intybus is a biennial Composite. It is grown in Britain and on the Continent for the sake of its roots, which, when dried, roasted and ground, provide a substitute and diluent for coffee. The two varieties grown for this purpose are the Brunswick, which has spreading leaves with toothed margins and a red midrib, and which forms large thick roots; and the Magdebourg which has erect entire leaves with a white midrib. It is from the Magdebourg variety that Witloof Chicory has arisen. The blanched leaves of Chicory had been used for many years in Europe as a loose-leaved salad known as Barbe de Capucin, but it was not until the mid-nineteenth century that the crop to be forced was covered with a layer of soil to provide the compact heads (Chicons), that we know today. It is said that the idea originated in the Jardin Botanique at Brussels where BESIERS, the head gardener, first put it into practice about 1850. (1)

The growers of Schaarbeek, in the Brussels region, produced the selection known as Brussels Witloof, and since then the Brussels area has become the world centre of production. By 1918 cultivation was general throughout Belgium. The French soon developed a great liking for this vegetable, importing large quantities from Belgium. It is only recently that production on a large scale has developed there. It is a very important winter vegetable in Holland.

BELGIAN PRODUCTION (2)

Belgian production was at its peak in 1937, when 17,500 acres of Witloof were grown. After a drop in production due to the Second World War, the acreage was up to 9,500 in 1948. During this season the total production of chicons was 40,000 tons, half of which was consumed in Belgium. Of the other half, 17,500 tons were exported to France.

DUTCH PRODUCTION (3)

In 1948, 4,645 acres were grown in Holland, and the total production of chicons passing through the auctions was 17,800 tons. At the same time the Dutch imported nearly 6,000 tons of chicons. It is considered that this represents a consumption of 5 lb. per head of the population.

ENGLISH PRODUCTION

The production of Witloof in Britain is extremely small and is considered negligible by the Ministry of Agriculture. No production figures are published. There seems to have been little change since the publication of *London Market Gardens* in 1879 (4). The author confidently predicted a great future for this new vegetable, but his hopes have not yet been fulfilled. However, there is a continuous small demand, particularly in the big cities, where it is required by the foreign communities. During the year 1950, we imported 9,265 cwt. at a value of £42,311. (5)

STRAIN AND VARIETIES

Strain is of supreme importance to the Witloof grower. Because of the rapid deterioration of stocks under conditions of commercial seed production, most growers prefer to keep their own seed. Good stocks are available, however, in Belgium and Holland, where varieties have been selected for early, mid-season and late production. At Wye, good quality Witloof has been produced from recommended strains obtained from Holland and France.

PRODUCTION OF THE ROOTS

Witloof is usually grown on light fertile loams which have been manured with dung for previous crops. Such soil produces the medium-sized clean roots which are necessary for forcing. Nevertheless good results have been obtained at Wye on fairly strong brick earths, and roots have also been grown satisfactorily on the Weald Clay. A low-nitrogen fertilizer such as is used for Carrots may be applied. Phosphorus and potash are considered to be of importance in the production of high quality chicons. Nitrogen, on the other hand, produces over-leafy plants with thick necks which are unsuitable for forcing.

The cultivation is similar to that of other root crops such as Carrots or Beet, where good quality roots are required. Seed is sown in the middle of May at about 3 lb. per acre in rows 12 inches apart. The plants are finally thinned to 6 inches apart in the rows. If it is found difficult to sow at 12 inches, then the spacing in the rows must be reduced. Too much room will give coarse roots which will not produce chicons of first quality.

HARVESTING THE ROOTS

Roots may be lifted at any time from the end of September to December. In the ground they are resistant to frost, and require only slight protection when lifted. The roots may be forked out, but lifting is usually done with the aid of a plough. A furrow is taken out beside the row of roots, and a blade attached to the base of the plough cuts off the bottoms of the roots, leaving them about 8 inches long which is the correct length for forcing. A single plough will keep five men occupied

pulling out the roots and stacking them in small heaps for a few days' drying. This drying completely checks the growth of the plant, and the roots may then be stored in heaps about a yard high and a yard across. The roots point inwards so that the leaves on the outside may give some protection to the heap. For long periods of storing larger heaps are made and protected by straw.

The yield of untrimmed roots is about 10 tons per acre. The ratio of the area of roots grown to the area of the forcing beds, varies between 30 to 1 and 40 to 1. A square yard of forcing space is necessary for every hundredweight of roots grown.

The production of Chicory roots on a large scale is a job for the farmer rather than for the horticulturist. In Holland roots are often produced on contract by the farmer for the grower. This is satisfactory provided that the roots are of a guaranteed strain and are the correct size.

Roots should be straight and clean and of an average weight of 3½–4 oz. After an examination of thousands of roots lifted at Wye, there seems no doubt that the larger roots produce chicons of poor quality with many side growths. It has been shown by Roux (6) that as the size of the root increases so, up to a point, does the size of the chicon. Beyond a diameter of 2 inches, worthless side shoots are produced.

FORCING

Before the roots are ready for forcing they must be trimmed and the length reduced to about 8 inches, if this has not already been done at lifting. All the roots must be of equal length so that their tops will be level in the forcing pit. Finally the leaves are trimmed to about half an inch from the shoulder of the root. If the leaves are cut too close, the growing point may be damaged, and if too much leaf remains after cutting this may decay and cause rotting of the developing chicon.

In principle the forcing consists in standing the roots upright in a shallow trench, and replacing the excavated soil on the top. The terminal bud develops and is forced through the covering soil, the pressure of which causes the bud to remain tightly closed. As no light penetrates to the developing chicon, it remains practically white, and the bitter flavour found in the green leaves is only present in sufficient quantities to give the characteristic flavour.

Various means of applying heat to speed up production have been devised. In the original Brussels system, a hot bed was used. A piece of ground, about a yard wide and 10 yards long, was prepared by deep digging. The soil was made fine by constant cultivation. A section of this bed, about a yard long, was excavated. In this the roots were placed upright, with their crowns on a level with the soil surface. As the worker moved back in the prepared ground, he threw the soil forwards and covered the roots to a depth of 10 inches. Thus the whole of the prepared bed could be filled and covered without actually digging a pit. The bed was covered with a hot bed of stable manure and finally with boards, to prevent heat loss and to keep out the rain.

Flue heating was also used, but both methods were eventually superseded by hot-water heating.

MODERN TECHNIQUE

The Belgians are the masters of the craft of Witloof production. They have perfected this culture as they have perfected the growing of several others of the more difficult horticultural crops, such as Orchids, Azaleas and Grapes. Their Witloof technique excites the admiration, and possibly the envy of their French and Dutch competitors. The technique to be described and recommended here is based upon the best Belgian practice, supplemented by three years' experience in growing the crop in the Horticultural Department at Wye College.

A customary Witloof forcing unit, as used by Belgian smallholders, is a small portable boiler, heating two forcing pits of 2½ feet by 8 yards each. The small boilers are circular and about 18 inches across. They can be carried by three men. A flow pipe runs round the outside of each bed and a single pipe returns to the boiler between the beds. The pipes are about 1½ inches in diameter, and lie 8 inches below the soil level. These pipes may be readily uncoupled from the boiler, so that the heating unit may be moved quickly and easily to heat another pair of beds (Fig. 29).

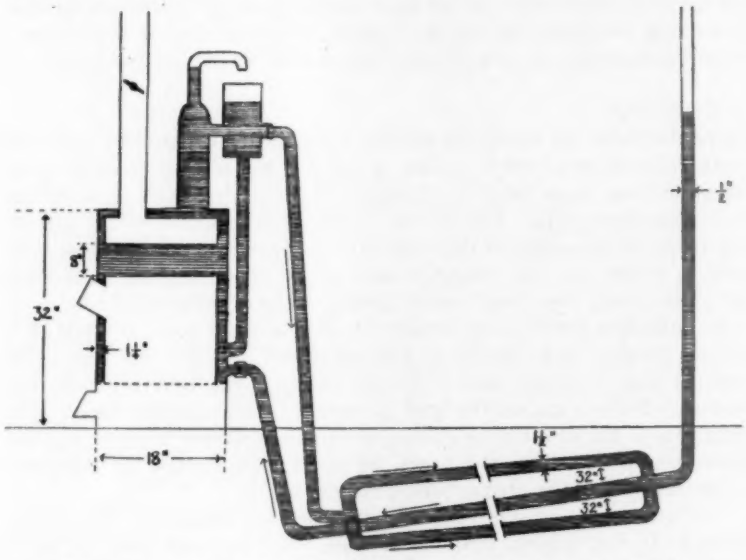


Diagram of Portable Heat Unit used in Belgium for Witloof production.

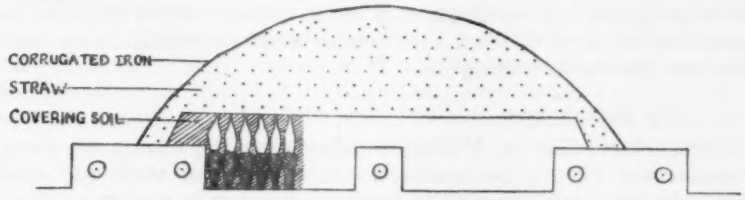
(After Van der Helm, Kers and Van den Muijzenberg)

When a bed is being prepared, an 8-inch pit is dug so that the roots may be placed in it with their crowns on a level with the surface. They are placed as nearly upright as possible and packed tightly together. When the first bed is filled with roots, about 4 inches of soil is thrown evenly over the crowns. This first layer of soil is heavily watered until it has completely disappeared between the roots, which are then covered

with a further 8 inches of soil. The covering soil consists of the normal well-cultivated, light, sandy loam of the nursery and must be well broken down.

The depth of the cover varies. It does not appear to matter if the points of the chicons push through the surface, provided that the forcing bed is well insulated and completely dark. For easy working a technique has been developed, which allows for the successive covering of the roots by the soil from the next bed to be excavated.

When a pair of beds has been filled and covered with soil, a layer of straw is put over the top and the whole covered with sheets of curved corrugated iron.



Section of Belgian Witloof Forcing Pit

About eight days are usually allowed to pass before the boiler is lit, during which time the beds settle and the roots put out rootlets into the surrounding soil. Temperature control is of great importance. Very long soil thermometers are used, which can be pushed down to the base of the roots. The temperature is raised to 65° F. This usually takes about three days, and the heat is then cut off. When the temperature falls below 60° F. stoking is restarted and continues for one or two days until 65° F. is again reached. In very cold weather a third stoking may be needed. When forcing is carried out at 65° F. the chicons are ready for harvesting in three weeks. With somewhat higher temperatures, the forcing period may be as little as 17 days, but three weeks gives the best quality chicons and the highest yield. Witloof may be produced at any temperature between 40° F. and 70° F. Above 65° F. there is a danger of bitterness and poor quality. With the lower temperatures the forcing process is slow.

There are many modifications of the method described above. Some growers prefer to use larger beds, with several hot water pipes buried a few inches below the roots. This system is claimed to give a better distribution of the heat. In some cases pipes are laid above the roots, so that they may be more readily removed when the forcing period is over. In the case of large permanent installations, the whole process takes place in large wooden sheds, fitted with wooden forcing pits supplied with bottom pipe heat from a complex hot water heating system.

ELECTRICAL HEATING (7) (8)

Electrical heating appears to be particularly satisfactory for Witloof forcing. The temperature of the beds can be under complete control and the distribution of the heating is excellent. There is little heat loss

from Witloof beds, and so this form of power, often found too expensive for general horticultural heating may be used economically. In Holland hundreds of tons of Witloof are forced in this way each year.

Forcing pits or frames of the ordinary type are used. Low voltage heating wires are laid in position in the bottom of the pit, as in a normal soil-heating installation. The wires are covered with 3 inches of soil before the roots are put in. A loading of 7 watts per square foot is used in Holland, and the current is switched on at night only. Dutch figures indicate that on nurseries using the high voltage, insulated cable system, there is an electricity consumption of 6 kilowatt hours per square yard, over the whole forcing period. The low voltage soil heating system used in England, is not in common use in Holland, but experiments show that it is considerably more economical in its use of current than cable heating (9).

THE HARVEST

Correct harvesting of Witloof is of extreme importance in quality production. There are many important points of technique which must be mastered before a first grade product can be sent to market.

In the first place, the crop must be lifted at exactly the right time. Where temperatures are fairly constant, the grower knows exactly how many days must elapse after the first stoking before he begins to harvest the chicons. He must strike a balance between weight and quality. If he leaves the crop in the bed too long the chicons will certainly increase in weight, but they will lose their perfect shape, and will tend to open slightly, allowing some of the internal leaves to project at the top, giving a ragged appearance.

The pit is opened at the end and the soil lifted away from the first row with a fork. The roots are held in the left hand and shaken to remove as much soil as possible from the chicon. The right hand, which is kept perfectly clean, is then used to remove the chicon by a gentle twist (Fig. 30). The chicon is then put into a box and the root dropped into another. All really unsatisfactory heads can be rejected at this point. When the box holding the chicons is half full, a layer of paper is put in so that the soil clinging to the upper layer will be prevented from falling on to the lower. The harvesting must take place in dry weather or under shelter. The smallest amount of rain falling on the crop makes it almost impossible to clean. The curved sheets of corrugated iron, used in Belgium for covering the forcing pits, are supported on iron rods to give shelter to the harvesters.

The yield of chicons is about 4 tons per acre of roots grown. After forcing, the roots of chicory are used for stock feeding.

CLEANING AND PACKING

The boxes of chicons are carried from the pits to the packing room. The cleaner holds the chicon in the left hand by the yellow tip, which is always the cleanest part. With the right hand, discoloured and dirty leaves are removed until a perfectly clean chicon remains. The right hand carries a small knife which is used for the final trimming of the base. A good Witloof cleaner may be recognized by the cleanliness of

his hands. On no account must the Witloof be washed, as this causes opening of the chicons and browning of the heart. It is sometimes recommended that the chicons be wiped with a soft rag, but if the harvesting and cleaning are efficiently carried out, this is unnecessary. Rubbing with the softest rag or brush causes bruising of the leaves and these rapidly turn brown. Experimental packs sent from Wye College to Covent Garden, have shown the importance of relying entirely on clean harvesting and stripping to produce the clean sample required.

PACKING

Witloof is a choice vegetable and great care is taken over presentation. In Belgium non-returnable boxes and cartons are used. These are lined with blue paper to show up the contents. The grades recommended by the Belgian Society of Witloof Growers are as follows. In the first grade the length of the chicon may be between 5 and 8 inches with a minimum thickness of 1 inch. The length should be five times the thickness. Colour must be pure white and the chicon must be very tight with three outer leaves only, visible. In the second grade less compact chicons of from 3 to 8 inches are allowed, provided that they are undamaged and of the right colour. The third grade may be still looser and larger or smaller. The first grade is packed in cartons holding 5 kilos (about 50 chicons). The second and third grades are packed in chips and baskets.

SEED PRODUCTION

Most Belgian growers save their own seed. The choicest heads are chosen from the forcing beds. They must be compact, pure white and borne on well-shaped, unforked roots. Usually these are chosen from the latest batches to be forced. The chosen plants are put out in the middle of March. If they are chosen too early to be left unprotected, they may be put into frames or covered with straw. The planting distance is 20 inches square. When the flowering shoot is about 12 inches high it is stopped, and the laterals produced are stopped in their turn. This produces a bushy, high yielding plant, with all the seed coming to maturity at the same time. Maximum seed production is obtained from the very best chicons in this way. These bushy plants are staked to avoid wind damage. The seed ripens in September when the plants are cut and laid on cloths in the sun. When the seed is quite dry it is thrashed and cleaned. Where multiplication of a very good chicon is desired the roots may be divided and a clonal stock produced.

Large-scale multiplication of Witloof seed will not produce such good stocks as the method described above. However, there is a large production of seed in Europe, and the method is as follows. Very good quality stock seed is sown in late July in a seed bed. Forty square yards is allowed to plant up one acre. The plants are put out in March at 20 inches square, and topped once as in beet seed production. The expected yield is from 300 to 600 lb. per acre. When Witloof is inspected in the field all plants with denticulate leaf margins must be rogued. The official Dutch isolation distance for Witloof is 800 yards from the nearest seed crop of chicory grown for roots.

DISEASES AND PESTS

Sclerotinia is the most important disease of Witloof. The roots are infected in the field and at forcing time they become covered with a white mycelium in which can be seen the large black pycnidia. The disease will soon spread through the forcing pit causing rotting of roots and chicons. When a pit has been contaminated it may only be used again after steam sterilization.

As wide a rotation as possible should be practised in growing the roots. All doubtful roots should be discarded at forcing time and burnt. Carrots are frequently attacked by this disease and should not be grown in ground which may be used for Witloof production. The disease is more frequent after warm summers. Witloof may also be attacked by Violet Root Rot and by a Rust (*Puccinia cichoria*).

In France and Holland serious damage to Witloof is caused by the maggots of two small dipterous flies, *Ophiomyia pinguis* and *Napomyza lateralis*. The damage was first noticed in Holland in 1925. According to Marcel (10), 50–80 per cent. of French Witloof is attacked by these pests which lay their eggs on the leaves in summer. The larva, on hatching, burrows in the petiole, particularly near the neck. When the leaves are removed, the larva remains at the leaf bases and during the forcing period, burrows through the newly formed leaves. The usual treatment is to immerse the roots in hot water at 104° F. for half an hour. A nicotine dip is recommended by Marcel, but this does not seem to be in such general use as the hot water treatment.

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WISLEY TRIALS, 1951

MAINCROP CULINARY PEAS

Forty-one varieties of Peas were grown at Wisley, all being varieties maturing after 'Gradus,' three groups of the latter being grown as a control. They were sown on April 25, and judged by a sub-committee of the Fruit and Vegetable Committee on July 23. Owing to the wet growing season most varieties grew taller than usual.

SUTTON'S ACHIEVEMENT. (Raised, introduced and sent by Messrs. Sutton & Sons Ltd., Reading, Berks.) **F.C.C.** July 23, 1951.—Height 6 feet, stout, very healthy stems, large light green leaves. Very free fruiting habit throughout. Pods 4½ inches long, pointed, light green and slightly curved forward. Peas large, bright green, sweet and juicy. A very heavy, even cropper, ready July 19.

ADMIRAL BEATTY LARGE PODDED SELECTION. (Raised by Mr. A. A. Clucas, introduced and sent by Messrs. J. L. Clucas Ltd., Ormskirk, Lancs.) **A.M.** July 23, 1951.—Height 6 feet, healthy, medium to large leaves. Fruiting habit free throughout. Pods 4½ inches long, straight and pointed. Peas large, sweet and juicy. Ready July 15.

HOLDFAST. (Raised, introduced and sent by Messrs. W. Deal & Sons Ltd., Kelvedon, Essex.) **A.M.** July 23, 1951.—Height 6 feet, stout, healthy stems, large, medium green leaves. Pods set freely, half-way to top, and singly, 3½ inches long, blunt and straight. Peas large, bright green, sweet and juicy. Ready July 15.

SUTTON'S AMBITION. (Raised, introduced and sent by Messrs. Sutton & Sons Ltd., Reading, Berks.) **A.M.** July 23, 1951.—Height 5 feet, very stout, healthy stems, medium sized and coloured leaves. Very free fruiting habit throughout. Pods 4½ inches long, pointed and slightly curved forward. Peas large, bright green, sweet and juicy. Ready July 20.

CLUSEED ORMSKIRKIAN. (Raised by Mr. A. A. Clucas, introduced and sent by Messrs. J. L. Clucas Ltd., Ormskirk, Lancs.) **H.C.** July 23, 1951.—Height 6 feet, healthy, leaves large and medium green. Fruiting habit free throughout. Pods 4 inches long, slightly curved and pointed. Peas large, sweet and juicy. Ready July 22.

CROPWELL. (Raised, introduced and sent by Messrs. D. T. Brown & Co. Ltd., Poulton-le-Fylde, Lancs.) **H.C.** July 23, 1951.—Height 4 to 4½ feet, leaves small to medium size, medium green. Freely fruiting throughout, in pairs. Pods 4 inches long, slightly curved and pointed. A good cropper, ready July 20.

DUPLEX. (Raised by Messrs. Laxton Bros., Bedford, Ltd., introduced by Messrs. Hurst & Sons, Ltd., and sent by Messrs. Nutting & Sons, Ltd., Merstham, Surrey.) **H.C.** July 23, 1951.—Height 3½ feet, with stout healthy stems, medium to large, light green leaves. Very free fruiting habit throughout. Pods 4¾ inches long, straight and pointed, occurring in pairs; peas large, sweet and juicy. A heavy cropper, ready July 22.

ONWARD. (Raised by Mr. W. J. Unwin, introduced and sent by Messrs. Watkins & Simpson Ltd., 27 Drury Lane, Covent Garden, London, W.C. 2.) **H.C.** July 23, 1951.—Height 4 feet, healthy stems, medium to large leaves. Free fruiting habit throughout. Pods 3¾ inches long, stout and straight. Peas large and bright green. A heavy cropper, ready July 18.

ONWARD IMPROVED. (Raised by Mr. W. J. Unwin, introduced by Messrs. Watkins & Simpson Ltd., and sent by Messrs. S. E. Marshall & Co., Albion Place, Wisbech, Cambs.) **H.C.** July 23, 1951.—Height 3½ feet with stout healthy stems, large medium green leaves. Very free fruiting habit

throughout. Pods 3½ inches long, singly and in pairs. A heavy cropper, ready July 19.

SUTTON'S MAJESTIC. (Raised, introduced and sent by Messrs. Sutton & Sons Ltd., Reading, Berks.) **H.C.** July 23, 1951.—Height 5½ feet, stout, healthy stems, large, medium to dark green leaves. Free fruiting habit half-way up the plants. Pods 5 inches long, pointed and straight. Peas large, sweet and juicy. Ready July 17.

SUTTON'S PEERLESS. (Raised, introduced and sent by Messrs. Sutton & Sons Ltd., Reading, Berks.) **H.C.** July 23, 1951.—Height 4¾ feet, healthy, medium to large leaves. Fruiting half-way to the top, singly and in pairs. Pods 4½ inches long, curved and pointed. Peas large, sweet and juicy. A heavy cropper, good even stock. Ready July 20.

PARSLEY

Thirty-three varieties of Parsley were grown at Wisley, sown on April 3, 1951. A sub-committee of the Fruit and Vegetable Committee judged the plants on August 22, 1951, and made recommendations for awards as given below.

Light Green

PERENNIAL MOSS CURLED. (Raised, introduced and sent by Messrs. Watkins & Simpson Ltd., 27 Drury Lane, Covent Garden, London, W.C. 2.) **A.M.** August 22, 1951.—Plant vigorous, 12 inches high, 14 inches wide, of compact habit. Foliage double moss curled, 4 to 5 inches long, 3 to 4 inches wide, on stalks 7 inches long. A level stock and heavy crop.

Light to Medium Green

NON PLUS ULTRA No. 189. (Raised and sent by Messrs. J. E. Ohlsens Enke Ltd., Copenhagen, Denmark.) **H.C.** August 22, 1951.—Plant vigorous, 12 inches high, 15 inches wide, spreading habit. Foliage double moss curled, 4 to 5 inches long, 3 to 4 inches wide, on stalks 7 to 8 inches long. A tall growing, even stock.

Medium Green

EXTRA TRIPLE CURLED IMPROVED. (Raised, introduced and sent by Messrs. Ferry-Morse Seed Co., 500 Paul Avenue, San Francisco 24, Calif., U.S.A.) **A.M.** August 22, 1951.—Plant vigorous, 12 inches high, 15 inches wide, spreading habit. Foliage 4 to 5 inches long, 3 to 4 inches wide, on stalks 8 to 9 inches long. A strong, even stock.

EXTRA TRIPLE CURLED. (Sent by Messrs. Ferry-Morse Seed Co., 500 Paul Avenue, San Francisco 24, Calif., U.S.A.) **H.C.** August 22, 1951.—Plant vigorous, 15 inches high, 15 inches wide, spreading habit. Foliage double moss curled, 4 to 5 inches long, 3 to 4 inches wide, on stalks 9 inches long.

ANSGAR. (Raised and sent by Messrs. Chr. Olsen Ltd., Odense, Denmark.) **H.C.** August 22, 1951.—Plant vigorous, 13 inches high, 14 inches wide, spreading habit. Foliage double moss curled, 4 to 5 inches long, 4 to 5 inches wide, on stalks 8 inches long.

Medium to Dark Green

PARAMOUNT IMPROVED. (Raised, introduced and sent by Messrs. Ferry-Morse Seed Co., 500 Paul Avenue, San Francisco 24, Calif., U.S.A.) **H.C.** August 22, 1951.—Plant vigorous, 12 inches high, 14 inches wide, spreading habit. Foliage 3½ to 5 inches long, 3 to 4 inches wide, on stalks 8 to 9 inches long. A good tall growing garden plant.

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ACCOUNTS
AND
BALANCE SHEETS
1951

Dr. ANNUAL REVENUE & EXPENDITURE ACCOUNT

1950 £	£		£	£
		To LONDON—		
		ESTABLISHMENT EXPENSES LESS ALLOCATIONS—		
5,074		Rent, Rates and Taxes	5,462	
12,888		Salaries and Wages	14,480	
9,578		Other Establishment Expenses, including Light, Fuel, Stationery, Professional fees, and Renewals	8,113	
	27,540			28,055
	31,814	„ WISLEY— Net Expenditure for Year, as per separate Account		37,543
		„ PUBLICATIONS—		
20,193		Journal	24,418	
6,858		Other Publications	10,301	
27,051			34,719	
11,565		*Less* Sales and Advertisements	12,093	
	15,486			22,626
	1,273	„ STAFF PENSION SCHEME		1,796
		„ MEETINGS— Expenses, Labour and Overheads of Special and other Meetings, including Chelsea Show Works, £7,043 (1950, £6,930) *less* transfer of Provision, £4,000		
38,234			41,872	
30,270		*Less* Receipts	36,902	
	7,964			4,970
	431	„ CUPS AND MEDALS		605
		„ CONTRIBUTIONS TO LINDLEY LIBRARY, as per Trust Account—		
312		Purchase of Books	379	
1,324		Salaries, etc.	1,531	
	1,636			1,910
		„ SPECIAL EXPENDITURE—		
190		Donations	190	
140		Expeditions	50	
		Installation, etc., of statue of Pan presented to the Society	78	
		£		
		R.H.S. Dictionary of Gardening 3,135		
		Less Contributions from Dedications Volume Fund 370		
			2,765	
	330			3,083
	1,724	„ BOTANICAL MAGAZINE		2,044
		„ EXAMINATIONS IN HORTICULTURE—		
2,894		Expenses	2,880	
2,844		*Less* Fees	2,698	
	50			182
300		„ SCHOLARSHIP	288	
		Less Contributions from—		
		£		
135		Worshipful Company of Gardeners 129		
30		Sir James Knott Trust 30		
			159	
	135			129
	235	„ *Restaurants— Expenses, including Proportion of Overheads, less Receipts*		—
		„ OLD AND NEW HALLS SINKING FUND APPROPRIATIONS—		
3,366		Annual	3,366	
6,000		Special	5,000	
	9,366			8,366
	2,500	„ *Amount written off Freehold Property, Wisley*		—
	—	PROVISION FOR DEFERRED REPAIRS, LONDON		1,000
	11,810	„ BALANCE, being Excess of Revenue over Expenditure, added to General Reserve		4,464
	£112,294			£116,773

FOR THE YEAR ENDED 31st DECEMBER, 1951 — Cr.

1950			
£			£
90,563	By	Annual Subscriptions and Donations . . .	93,982
3,526	„	Dividends and Interest	3,440
16,823	„	Hall Lettings, Gross	18,251
	„	Life Compositions—	
977		Being amounts transferred in respect of Life Fellows who have died during the year	459
405	„	Rent of Freehold Property (Wisley) . . .	476
	„	Restaurants—	
—		Receipts, *less* Expenditure (including proportion of Overheads)	165
£112,294			£116,773

1950 £	£		£	£	£
		CAPITAL FUNDS AND RESERVES			
	250,000	Accumulated Funds Account		250,000	
		General Reserve Account—			
71,281		Balance at 31st December, 1950	83,091		
		Add Balance of Revenue and Expenditure Account,			
11,810		31st December, 1951	4,464		
—		Surplus on Redemptions of Investments	243		
	83,091			87,798	
	333,091				337,798
		DEPRECIATION AND OTHER FUNDS			
		Old and New Halls Sinking Fund—			
78,972		Balance at 31st December, 1950	90,689		
2,351		*Add* Income on Investments for the year	2,576		
		Allocations from Revenue and Expenditure			
9,366		Account	8,366		
—		Surplus on Redemptions of Investments	140		
	90,689			101,771	
	10,000	Depreciation and Renewal Fund		10,000	
		Shows Contingency Fund—			
4,015		Balance at 31st December, 1950	4,124		
109		*Add* Income on Investments for the year	113		
	4,124			4,237	
	507	Monograph Fund		507	
		Supplementary Pension Fund—			
		Balance at 31st December, 1950	921		
		Add Income on Investments for the year	36		
		Share of Policies surrendered	589		
	921			1,546	
	106,241				118,061
		LIFE COMPOSITIONS			
30,440		As at 31st December, 1950		30,406	
		Less Amount transferred to Revenue in respect of			
977		Life Fellows who have died during the year		459	
29,463				29,947	
943		*Add* Compositions received during the year		1,090	
	30,406				31,037
		PROVISIONS			
		London, Deferred Repairs—			
5,771		Balance at 31st December, 1950	4,118		
1,653		*Less* Expended during the year	1,195		
			2,923		
		Add Transfer from Rev. & Exp. Account	1,000		
	4,118			3,923	
		Wisley Deferred Repairs—			
2,299		Balance at 31st December, 1950	2,531		
1,768		*Less* Expended during year	1,457		
531			1,074		
		Add Transfer from Revenue and Expenditure			
2,000		Account	2,000		
	2,531			3,074	
		Chelsea Show Works—			
	4,000	Balance at 31st December, 1950	4,000		
		Less Expended during year	4,000		
	10,649				6,997
		CURRENT LIABILITIES			
2,150		Subscriptions in Advance		2,379	
		Memorial and Other Trust Funds—			
		Balances of Income Accounts in the hands of the			
528		Society as per Separate Schedule		501	
20,731		Sundry Creditors		30,679	
	23,409				33,559
	£503,796				£527,452

I have audited the above Balance Sheet, dated 31st December, 1951, and have obtained all the information and explanations I have required. In my opinion such Balance Sheet is properly drawn up so as to exhibit a true and fair view of the state of the Society's affairs according to the best of my information and the explanations given to me and as shown by the books of the Society.

F. G. Feather, F.C.A., *Auditor.*
(Harper, Feather & Paterson, *Chartered Accountants*),
4 Lloyds Avenue, London, E.C. 3.

8th January, 1952.

BALANCE SHEET, 31st DECEMBER, 1951

1950 £	1950 £		£	£	£
		FIXED ASSETS			
87,344		Old Hall, Offices, and Equipment at Cost	92,943		
167,795		New Hall, Offices and Equipment at Cost	167,795		
	255,139			260,738	
		(*Note.*—The replacement of these Assets is provided for partly by means of the Sinking and Depreciation Funds *per contra* and also by charging the cost of replacement of Equipment direct to Revenue.)			
32,638		Freehold Property, Wisley, at Cost	33,062		
14,320		*Less* Amounts written off	14,320		
	18,318			18,742	
	273,457				279,480
		FUNDS INVESTMENTS, at Cost			
90,689		Old and New Halls Sinking Fund (Market Value 31st December, 1951, £91,734)		101,771	
10,000		Depreciation and Renewals Fund (Market Value 31st December, 1951, £9,055)		10,000	
4,124		Shows Contingency Fund (Market Value 31st December, 1951, £4,038)		4,237	
507		Monograph Fund (Market Value 31st December, 1951, £498)		507	
—		Supplementary Pension Fund (Market Value 31st December, 1951, £1,335)		1,546	
	105,320				118,061
	100,656	**GENERAL INVESTMENTS, at Cost** (Market Value 31st December, 1951, £93,670)			106,313
	1,621	**WISLEY ADJUSTMENT ACCOUNT**			1,909
	4,012	**PUBLICATIONS IN COURSE OF PRODUCTION**			3,790
		CURRENT ASSETS			
100		Botanical Magazine Stock (Nominal Value)		100	
11,906		Sundry Debtors and Payments in Advance		13,372	
6,724		Cash at Bank and in Hand		4,427	
	18,730				17,899
	£503,796				£527,452

Dr. WISLEY GARDENS—REVENUE & EXPENDITURE

1950				
£	£		£	£
		To ESTABLISHMENT EXPENSES—		
5,617		Salaries and Wages	6,076	
823		Rates, Taxes and Insurances	949	
3,676		Miscellaneous	4,076	
38		Annuities	258	
	10,154			11,359
		„ LABORATORY AND SCHOOL OF HORTICULTURE—		
4,534		Salaries and Wages	3,996	
173		Miscellaneous	196	
135		Depreciation of Loose Effects	113	
	4,842			4,305
		„ GARDEN—		
17,535		Salaries and Wages	19,199	
793		Seed Distribution *less* Receipts	938	
3,899		Miscellaneous	4,132	
160		Depreciation of Loose Effects	238	
250		Allocation to Depreciation and Renewal Fund	250	
	22,637			24,757
908		„ STAFF PENSION SCHEME		827
£38,541				£41,248
29,609		To BALANCE, brought down		35,253
		„ SPECIAL EXPENDITURE—		
		New Car *less* Proceeds of Old	255	
		Further expenditure on War Memorial	35	
205				290
2,000		„ PROVISION FOR DEFERRED REPAIRS		2,000
£31,814				£37,543

ACCOUNT FOR THE YEAR ENDED 31st DECEMBER, 1951 Cr.

1950 £	£		£	£
	1,139	By Dividends and Interest		1,148
		„ Garden—		
6,593		Miscellaneous Receipts	3,647	
1,200		Grant from Ministry of Agriculture in respect of National Fruit Trials	1,200	
	7,793			4,847
	29,609	„ Balance, carried down		35,253
	£38,541			£41,248
	31,814	By Balance, being Net Expenditure for the Year, carried to the Annual Revenue and Expenditure Account		37,543
	£31,814			£37,543

1950 £	£		£	£
	34,546	**ACCUMULATED FUNDS ACCOUNT**		34,546
	24,448	**ENDOWMENT TRUST FUND**		24,448
		DEPRECIATION AND RENEWALS FUND		
12,683		Balance at 31st December, 1950	12,933	
250		*Add* Allocation from Revenue and Expenditure Account	250	
	12,933			13,183
	1,621	**VINCENT SQUARE ADJUSTMENT ACCOUNT**		1,909
	£73,548			£74,086

SHEET, 31st DECEMBER, 1951

1950 £	£		£	£
	33,372	**LABORATORY, DWELLING HOUSES, GLASS HOUSES, RANGES, ETC., at Cost** N.B.—The Hanbury Trust Estate is, under the Trust Deed, vested in the Society only so long as it is in a position to use it as an Experimental Garden. Accordingly the Expenditure thereon by the Society is an Asset only so long as the Gardens continue to be used by the Society.		33,372
	24,448	**ENDOWMENT TRUST FUND INVESTMENTS, at Cost** (Market Value at 31st December, 1951, £22,942)		24,448
	12,933	**DEPRECIATION AND RENEWALS FUND INVESTMENTS, at Cost** (Market Value at 31st December, 1951, £12,576)		13,183
		PLANT AND LOOSE EFFECTS (valued by the Director)		
2,276		As at 31st December, 1950	2,570	
589		*Add* Purchases during year	382	
2,865			2,952	
295		*Less* Depreciation of Garden and Laboratory Effects	351	
	2,570			2,601
	225	**FUEL STOCK (valued by the Director)**		482
	£73,548			£74,086

I have audited the books from which the foregoing Accounts are compiled, and certify that they exhibit a true and correct statement of the position on the 31st December, 1951. In the total of Assets, £74,086, are included Investments, at Cost, amounting to £24,448 representing The Endowment Trust Fund, the Capital of which is not available for use by the Society.

F. G. FEATHER, F.C.A., *Auditor*.
(HARPER, FEATHER & PATERSON, *Chartered Accountants*),
4 Lloyds Avenue, London, E.C. 3.

8th January, 1952

ROYAL HORTICULTURAL SOCIETY—TRUST FUND ACCOUNTS, 31st DECEMBER, 1951

	Investments at Cost.	Income Balance 31st Dec. 1950.	Income received during 1951.	Expenditure in 1951.	Income Balance 31st Dec. 1951.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1. Alfred Davis Trust Fund	1,446 14 8	*Nil*	46 13 1	46 13 1	*Nil*
2. Williams Memorial Fund	259 17 3	46 10 11	8 17 8	17 14 3	37 14 4
3. Masters Memorial Fund	742 17 0	7 12 2	19 10 0	20 0 0	7 2 2
4. Nicholson Memorial Fund	252 18 11	*Nil*	6 6 2	6 6 2	*Nil*
5. Schröder Pension Fund	557 14 6	4 0 2	19 4 6	20 0 0	3 4 8
6. Lindley Library Trust Fund	19,362 10 9 (*a*)	*Nil*	1,561 13 4 (*b*)	1,561 13 4	*Nil*
7. Sir James Knott Trust	875 1 9	63 9 0	32 16 4	30 0 0	66 5 4
8. Veitch Memorial Trust Fund	1,742 0 11	160 7 11	44 4 4	34 7 7	170 4 8
9. Moore Medal Trust	190 10 6	33 18 10	7 16 6	17 14 3	24 1 1
10. Sewell Medal Trust Fund	536 10 3	118 9 5	15 8 5	23 7 9	110 10 1
11. Mrs. Sherman Hoyt Prize Fund	208 1 2	51 1 6	6 4 10	5 13 1	51 13 3
12. Lord Riddell Trophy Fund	222 12 11	2 14 10	5 19 0	6 5 6	2 8 4
13. Dedications Volume Fund (Botanical Magazine)	*Nil* (*c*)	*Nil*	13 7 11	13 7 11 (*c*)	*Nil*
14. The Colman Fund	1,716 3 5	*Nil*	44 5 5	44 5 5 (*d*)	*Nil*
15. P. D. Williams Fund	372 7 9	*Nil*	71 16 7 (*e*)	71 16 7	*Nil*
16. The Glazebrook Fund	100 0 0	*Nil*	3 6 3	3 6 3	*Nil*
17. A. J. Waley Medal Fund	131 3 10	21 16 8	3 12 8	3 15 4	21 14 0
18. Holford Medal Fund	300 0 0	18 1 4	9 0 0	20 16 9	6 4 7
19. Henry George Sewell Prize Fund	339 9 11	*Nil*	66 7 6 (*f*)	66 7 6	*Nil*
20. McBean Memorial Trophy Fund	169 6 8	*Nil*	36 5 0 (*g*)	36 5 0	*Nil*
Total as per Balance Sheet					£501 2 6

	£ s. d.
(*a*) Investment	1,509 10 2
Cost of books purchased by Society to 31st Dec., 1950	17,474 10 2
Books purchased by Society in 1951	378 10 5
	£19,362 10 9

(*b*) Includes contribution by the Society £1,531 3*s.* 6*d.*

(*c*) Fund applied to assist in financing the R.H.S. Dictionary of Gardening

	£ s. d.
Capital	356 13 0
Income	13 7 11
	£370 0 11

(*d*) Income reinvested

(*e*) Includes contribution by the Society £60 17*s.* 2*d.*

(*f*) Includes £56 9*s.* 6*d.* from Capital

(*g*) Includes £30 1*s.* 8*d.* from Capital

Notes on above Funds:

1. Bequeathed to the Society in 1870 for annual prizes or any other object the Council may determine. 2. Raised by donations in 1891 in memory of the late Mr. B. S. Williams towards the provision of prizes and medals. 3. Raised by donations in 1908 in memory of the late Dr. Masters towards the provision of one or more annual lectures. 4. Raised by donations in 1908 in memory of the late Mr. George Nicholson to provide prizes for Wisley students. 5. Provided by the Society in memory of the late Baron Schröder to pay to the Gardeners' Royal Benevolent Institution for one pension. 6. The nucleus of the library is the fine collection of books and pamphlets which belonged to the late Dr. Lindley. It has since been added to by the books purchased by the Society and by the gifts of the late Mr. Reginald Cory and of private donors. 7. Presented to the Society in 1920 by the late Sir James Knott for the purpose of providing a scholarship tenable at Wisley. 8. Instituted in 1870 in commemoration of the late Mr. James Veitch for the encouragement of Horticulture. Fund vested in the Society in 1922. 9. Presented to the Society in 1926 by the late Mr. G. F. Moore to provide a medal annually for the best new Cypripedium shown to the Society during the year. 10. Presented to the Society in 1928 by the late Mr. A. J. Sewell to provide medals for Rock Garden Plants. 11. Presented by Mrs. A. Sherman Hoyt in 1920 as a donation and funded by the Society to provide prizes for the encouragement of the growth of Cacti and Succulents. 12. Presented by the late Lord Riddell in 1931 to provide a trophy annually to be awarded for vegetables. 13. Proceeds of the sale of Curtis's Botanical Magazine Dedications, 1827–1927, presented in 1932 to the Society by the late Mr. William Cuthbertson, to be devoted to publications. 14. Presented to the Society in 1935 by Sir Jeremiah Colman, Bt., V.M.H., to be used for the improvement of flowers or fruit. 15. Raised in 1936 by donations to provide medals to commemorate the late Mr. P. D. Williams and to encourage the cultivation and improvement of Daffodils and Rhododendrons. In 1937 the Society made a grant of £75 to cover the cost of medal design and dies. 16. Bequeathed to the Society in 1938 by the late Mr. H. de T. Glazebrook to provide prizes at the Society's shows. 17. Instituted by Mr. Alfred J. Waley in 1937 to provide an Annual award to any working gardener who has helped the cultivation of Rhododendrons. Fund vested in the Society in 1946. 18. Presented in 1947 by the Trustees of the late Sir George Holford to perpetuate the Holford Medal, offered since 1928 for the best exhibit of plants and/or flowers (excluding fruit or vegetables) shown by an amateur during the year. 19. Presented in 1947 by Mrs. A. M. Sewell in memory of her husband, Dr. H. G. Sewell, to provide 10 annual prizes to be awarded for a competition at one of the Society's Shows. 20. Presented in 1947 by the family and friends of the late Mr. A. A. McBean, to provide a Silver Trophy annually from 1949, over as long a period as the sum shall last, for the best exhibit of Cymbidiums shown by an amateur.

GENERAL MEETINGS
OCTOBER 23, 1951

FLORAL COMMITTEE A—*continued.*

Silver Banksian Medal

To Mr. John R. Bell, Cross-in-Hand, for an exhibit of Chrysanthemums.
To Messrs. Thomas Carlile, Ltd., Twyford, for an exhibit of Korean Chrysanthemums and Asters.
To Messrs. Wells, Ltd., Merstham, for an exhibit of Chrysanthemums.

Flora Medal

To Messrs. Old Court Nurseries, Ltd., Colwall, for an exhibit of Asters and hardy Nerines.

Banksian Medal

To Mr. F. Little, Luton, for an exhibit of Pelargoniums.
To Mr. A. Miles, Bickley, for an exhibit of Korean Chrysanthemums.
To Messrs. Wheatcroft Bros. Ltd., Ruddington, for an exhibit of Roses.

Selected for trial at Wisley

Aster from Mrs. Price (gr. Mr. C. J. Richardson), Marks Hall, Coggeshall, Essex.

Other Exhibits

Chrysanthemum sport from Messrs. J. W. Cole & Son, Peterborough.
Violas and Roses from Mr. C. A. Jardine, Feltham.

FLORAL COMMITTEE B.—Lord ABERCONWAY, C.B.E., LL.D., D.Sc., V.M.H., in the Chair, and eighteen other members present.

Awards Recommended:

Silver-gilt Banksian Medal

To Mr. W. J. Marchant, Stapehill, Wimborne, for an exhibit of berried and foliage shrubs.
To Messrs. R. Wallace & Co., Tunbridge Wells, for an exhibit of berried and foliage shrubs.

Silver Flora Medal

To Messrs. J. Cheal & Sons, Ltd., Crawley, for an exhibit of berried and foliage shrubs.
To Messrs. Hillier & Sons, Ltd., Winchester, for an exhibit of berried and foliage shrubs.
To Messrs. R. C. Notcutt, Ltd., Woodbridge, for an exhibit of berried and foliage shrubs.

Silver Banksian Medal

To Mr. C. Newberry, Knebworth, for an exhibit of Gentians and Anemones.
To Messrs L. R. Russell, Ltd., Windlesham, for an exhibit of berried and foliage shrubs.

Flora Medal

To Messrs. Burkwood & Skipwith, Ltd., Kingston, for an exhibit of berried and foliage shrubs.
To Messrs. D. Stewart & Son, Ltd., Ferndown, for an exhibit of berried and foliage shrubs.
To Messrs. F. Toynbee, Ltd., Barnham, for an exhibit of berried and foliage shrubs.

Banksian Medal

To Messrs. Kew Topiary Nursery, Ltd., Richmond, for an exhibit of clipped trees.
To Messrs. Kibble & Clare, Ltd., Ascot, for an exhibit of rock garden plants.
To Mr. J. O. Sherrard, Newbury, for an exhibit of flowering and berried shrubs.
To Messrs. D. Stewart & Son, Ltd., Ferndown, for an exhibit of autumn-flowering bulbous plants.

Award of Merit

To *Nyssa sylvatica* as a hardy ornamental foliage tree (votes unanimous), from Mr. W. J. Marchant, Stapehill, Wimborne.
To *Oxydendrum arboreum* as a hardy ornamental foliage tree (votes 16 for, 0 against), from Mr. W. J. Marchant, Stapehill, Wimborne.

Other Exhibits

Berberis quelpaertensis, exhibited by D. C. Trehane, Esq., Simons, Stapehill, Wimborne.
Cotoneaster × *simontalis*, exhibited by Mr. A. V. Pike, Hever Castle Gardens, Edenbridge.
Escallonia montevidensis, exhibited by Lord Talbot de Malahide, Malahide Castle, Co. Dublin.
Sorbus domestica pyrifera, exhibited by Messrs. W. C. Slocock Ltd., Woking.

ORCHID COMMITTEE—Mr. GURNEY WILSON, F.L.S., V.M.H., in the Chair, and ten other members present.

Awards Recommended:

Silver Banksian Medal

To Messrs. Sanders (St. Albans) Ltd., St. Albans, for an exhibit of Orchids.

First Class Certificate

To *Cypripedium* 'Moonchild' (*C.* 'Sumurun' × *C.* 'Phantasy') (votes unanimous), exhibited by Messrs. H. G. Alexander Ltd., Westonbirt, Tetbury.

Cultural Commendation

To *Angraecum Eichlerianum* (votes 10 for, 0 against), exhibited by Messrs. Sanders (St. Albans) Ltd., St. Albans.

JOINT ROCK GARDEN PLANT COMMITTEE—Col. F. C. STERN, O.B.E., M.C., F.L.S., V.M.H., in the Chair, and eleven other members present.

Exhibit

Sedum sp. (L. and S. 19626) which was referred to the Scientific Committee for naming from Messrs. Kibble & Clare, Ltd., Ascot Wood Nurseries, Ascot, Berks.

NOVEMBER 6, 1951

SCIENTIFIC COMMITTEE—Mr. E. A. BOWLES, M.A., F.L.S., F.R.E.S., V.M.H., in the Chair, and seven other members present.

Tetracentron sinense in Fruit.—Colonel F. C. Stern exhibited fruiting branches of *Tetracentron sinense* from his garden at Highdown, Goring-by-Sea, Sussex, where a 30-year-old tree, about 25–30 feet high, of this uncommon Sino-Burmese species flowered for the first time in 1950; this year it has fruited profusely. The pendulous slender yellowish fruiting spikes are about 15 cm. long and are borne along the branches on short shoots terminated by a long narrow reddish pointed bud; they have a catkin-like appearance. The fruits consist of four united follicles, about 4 mm. long, the style persisting as a small hook or spur near the base of each as a result of the great enlargement of the inner side of each carpel after fertilization. Each follicle contains several linear seeds. This species has been the subject of very detailed investigation by A. C. Smith, I. W. Bailey and C. G. Nast (see *J. Arnold Arb.* 26: 123–54, 267–76; 1945). At one time placed in the family Magnoliaceae, it is now recognized as very distinct and placed in a separate family, Tetracentraceae, of which it is the only member.

Abnormal Agapanthus Inflorescence.—A fruiting umbel of an Agapanthus akin to *A. orientalis*, bearing numerous pedicels about 10 cm. long and also eleven secondary peduncles 14–20 cm. long, each with an umbel of five to nine flowers, was shown by the Hon. Lewis Palmer. The specimen was comparable in formation to an abnormal inflorescence of *Allium senescens* exhibited earlier by Mr. E. A. Bowles (see Minutes of July 31, 1951).

Quamoclit Sloteri.—Mr. N. K. Gould exhibited a specimen of a plant grown at Florence which he had identified as *Quamoclit Sloteri* House described and illustrated in *Gentes Herbarum* 1: 128 (1923); the plant is an annual with deeply lobed leaves, awned sepals and crimson corollas.

Tracheliopsis tubulosa.—A growing plant of *Tracheliopsis tubulosa*, syn. *Trachelium tubulosum*, was exhibited by Messrs. W. E. Th. Ingwersen. This rare species is a native of southern Turkey, western Syria and Lebanon. It has a crowded inflorescence of small white flowers, the corolla tube about 5 mm. long with the lobes erect and about 1 mm. long. The specimen shown was 8 cm. high.

Nertera granadensis naturalized.—A sod of turf taken from a lawn in the Valley Gardens, Harrogate, and sent by the Parks Superintendent, Mr. W. V. Bishop, showed *Nertera granadensis*, syn. *N. depressa*, completely established among lawn grass. The seeds were probably carried by a bird sometime before 1939 when plants of Nertera were used for bedding nearby. Although usually considered tender, Nertera grows here on a clay soil, very wet in winter and often frozen. Mr. W. G. MacKenzie stated that Nertera had become established in a lawn at Helensburgh, Dumbarton, south-west Scotland.

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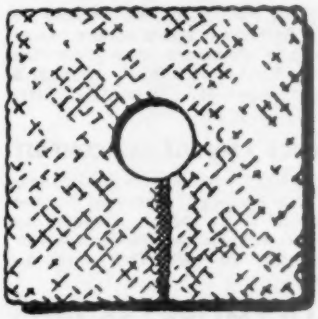

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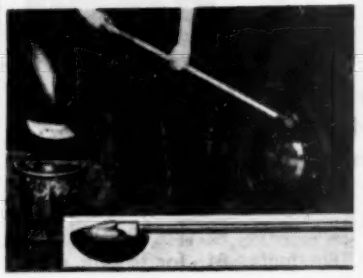

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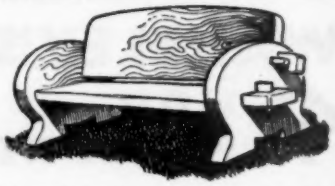

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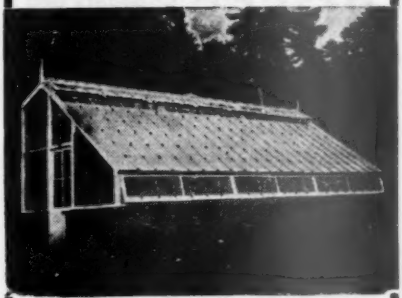

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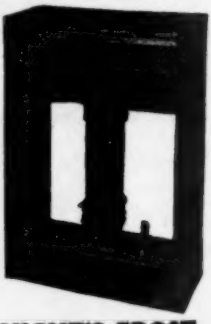

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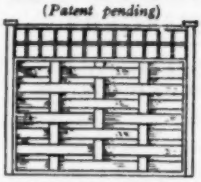

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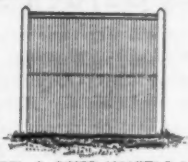

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